DOMESTIC ENGINEERING

Plumbing, Heating and Air Conditioning

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See Page

What Does a TRADE MARK Mean Today?

In a world at war, trade marks are temporarily out of fashion. American industry has joined hands to produce what is needed for victory. Under extensive sub-contracting and pooling of designs, resources and supervisory personnel, the only mark that truly indicates the origin of most war equipment is a shield with the letters, U.S.A.

Like most of American industry, Perfex Corporation is devoting its complete facilities to war needs. All we can say is that all our precision equipment and trained personnel are not making products with which you are familiar. But hundreds of thousands of controls, marked by the Perfex Twins, are delivering full measure of service, saving fuel, keeping workers comfortable for continued health and efficiency. Under the difficult conditions now existing, the performance of those controls is worth watching — and the trade mark is significant.

For the Twins are more than an identifying mark. As you know, Perfex-built controls are sold under the name of the manufacturer of the equipment with which they operate. It is not merely a matter of labeling. In every case, the manufacturer's engineers worked with ours, and the controls were built to provide perfect team work with the firing equipment. The manufacturer in each case, by using his own name, adds his reputation and responsibility to ours. That's what the Twins mean—a double assurance to dealer and user alike.

So, when peace comes again—and trade marks once more become a guide to shrewd buyers—remember the significance of the Perfex Twins, what they represent and what they can mean to you. Meanwhile, keep an eye on them—see for yourself how little trouble you have on installations where the controls are so marked.

PERFEX CORPORATION

500 West Oklahoma Avenue, Milwaukee, Wisconsin

WAR PRODUCTION DEMANDS EXTRA SERVICE . . .

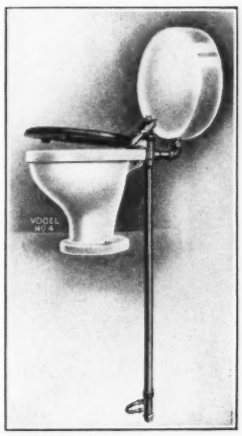
and Vogel Products are giving it . . .

Equipment that won't stand the strain of extra service, harder use and continuous operation has no place in war production. This is particularly true of toilet facilities, and explains why durable, economical VOGEL Closets are being installed in shipyards, gun factories, chemical plants, steel mills and other vital defense units.

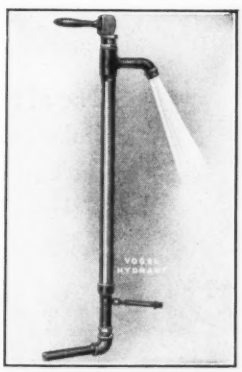
The VOGEL Frost-Proof Hydrant will never freeze even at sub-zero temperatures and is a valuable addition to regular fire fighting equipment. Many thousands of these hydrants have been installed in Chemical and High Explosive Plants where they add immeasurably to the safety of those engaged in arming our fighting men.

VOGEL PATENTED Products

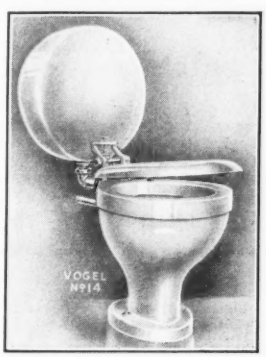
JOSEPH A. VOGEL COMPANY • WILMINGTON, DELAWARE



VOGEL NUMBER 4. Vitreous china bowl with top supply, painted white enameled drum shaped pressure tank, reinforced hardwood seat, union ell flush connection. *This fixture can be furnished with Vacuum Breaker and Ball Check Waste.*



VOGEL FROST-PROOF HYDRANT. Thousands of these Hydrants have been installed in chemical and high explosive plants and are protecting the lives of countless workmen.



VOGEL NUMBER 14. Southern Outfit. Vitreous china top supply bowl, heavy brass flush valve, reinforced hardwood seat, painted white enameled drum shaped tank. Union ell flush connection.

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May, 1943

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The news of this month is extremely important to the plumbing and heating industry, and its nature is such as to indicate even more developments during the coming several weeks.

Of first importance, from all angles, is the new emphasis about to be given to essential civilian supplies — and plumbing and heating definitely fall in this category. The editorial and leading features in this issue illustrate the balancing procedure which WPB logically must follow in choosing between dishpans and lavatories, clothes hangers and heating boilers, etc. The illustration chosen in the leading feature of this issue—heating controls—is extremely timely and important. Our industry may expect to learn within the next several weeks that controls will be given a much better break this year.

This issue also reflects the latest government thinking on such important orders as P-84, L-63, and L-79. These orders are part and parcel of the civilian supply situation mentioned above. In this connection, our industry will meet in this issue Mr. Whiteside, who replaces Mr. Weiner as the key man as far as civilian goods are concerned. Mr. Whiteside's department will be a claimant agency under the Controlled Materials Plan with powers and functions parallel to those of the Army and Navy, War Housing, Lend-Lease, etc.

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DOMESTIC ENGINEERING

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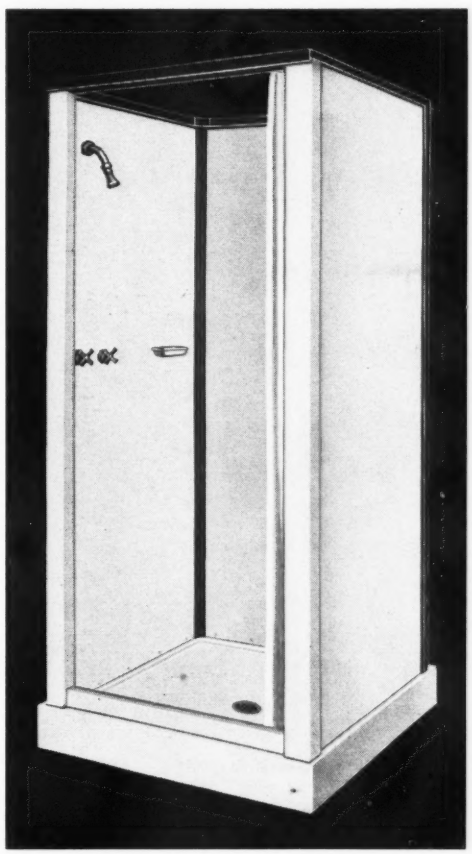
Field Representatives: E. G. Hutchison, Douglas M. Kenney, R. V. Sawhill, A. T. Papineau, F. C. Murray, J. U. Farley.
New York City address, 110 East 42nd Street; Cleveland address, Citizens Building; Los Angeles address, 5915 Satsuma Avenue, North Hollywood, Calif.

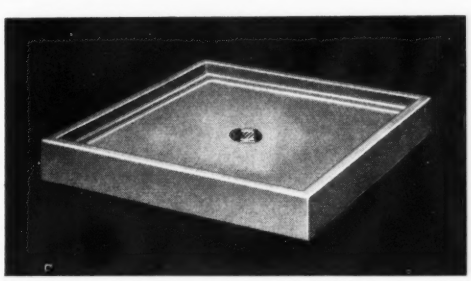
YOU PROFIT BY THESE QUALITY FEATURES OF WEISWAY V DELUXE *Cabinet Showers*

Bath Facilities NOW for Remodeling and New Building

Privately financed housing in war production areas now rates AA3 priorities, creating new business opportunities for you with Weisway V DeLuxe Cabinet Showers. Check these quality features:

1. Plastex receptor is high pressure molded of chemically blended materials containing no cement... lighter in weight, stronger, more durable, easier to handle and install.
2. Walls of genuine Masonite, proved by a nine-year submersion test to retain strength and dimensions under servere conditions.
3. Accurate fabrication, and pre-assembly of corner members at factory, *enables quick installation—saves manpower.*
4. Selected close-grained wood assembly members, carefully milled, specially treated with Woodlife, a toxic water repellent for prevention of shrinking, swelling or warping and proofing against stain, vermin and water absorption.





Immediate shipment. Write for detailed information.

HENRY WEIS MFG. CO., INC. (Est. 1876)
504 OAK STREET, ELKHART, INDIANA

WEISWAY *Cabinet Showers*

Now's the time for G-E Dealers to get busy!

Now the heating season is over, you have your chance to cash in on the G-E advertising which is urging home owners to have furnaces cleaned, inspected and adjusted *this summer.*

The advertisement reproduced here is the third in the series. It will appear in *Better Homes & Gardens* for July and in *American Home* for August. Like the May and June ads in both of these magazines, it tells home owners to call in the local *G-E Dealer.*

This offers you an opportunity to get added service business in the slack months—to avoid some of the fall rush—to cultivate good prospects for new G-E heating equipment after the war.

There are plenty of people in your territory who *need* the expert service G-E Dealers can supply. Go after them *now*—and good luck! *General Electric Co., Heating Division 3165, Bloomfield, New Jersey.*

GENERAL ELECTRIC

"A rest this summer won't fix ME up for next winter! Talk about torpid liver—my whole *system* needs overhauling. Get me fixed up now, and then we can *both* rest easy."

* * *

DON'T wait until the fall rush is on! Avoid service headaches by arranging for *summer* inspection and adjustment of your heating plant. No matter what furnace or fuel you're using, call your G-E Heating Dealer, today!

Ask also for our booklet, "Tips on Fuel Conservation." It's free—tells how to keep warm and save fuel. Address *General Electric Co., Heating Division 3147, Bloomfield, New Jersey.*

GENERAL ELECTRIC

THRUSH FORCED CIRCULATING "SUMMER-WINTER" HOT WATER HEAT

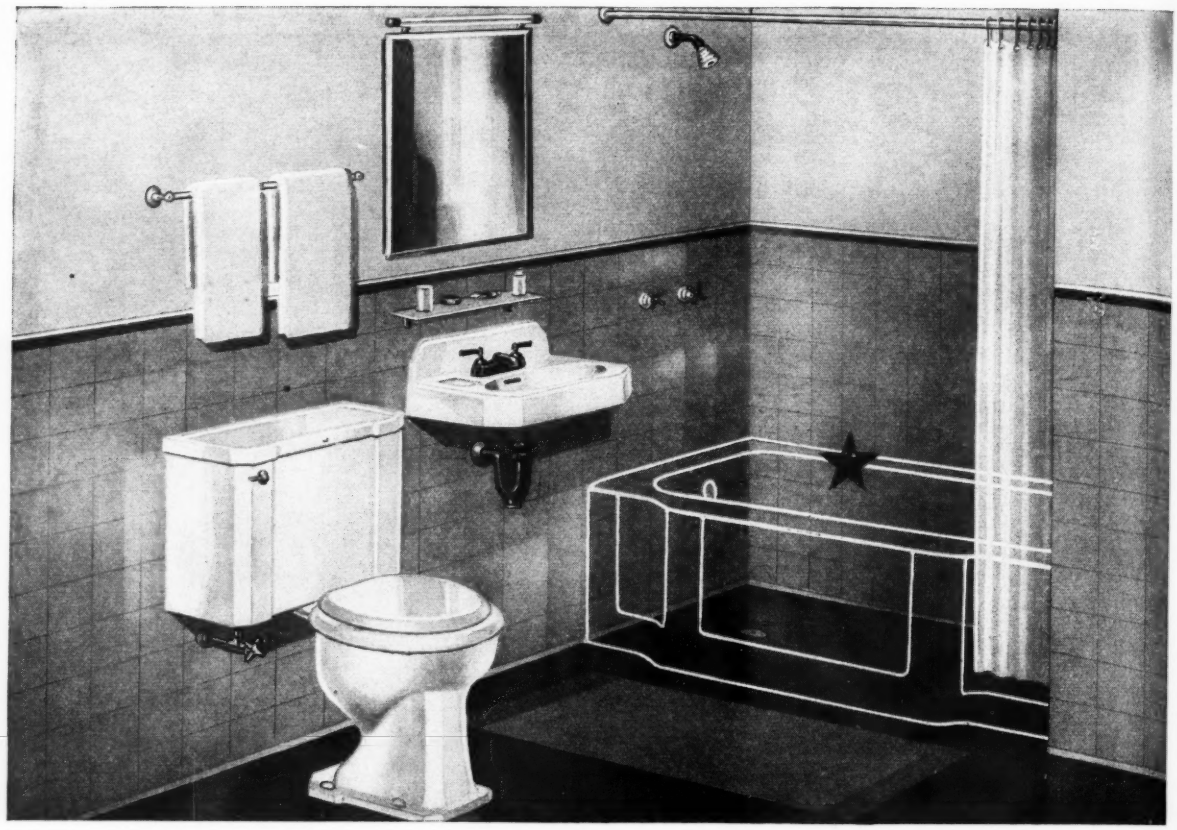
THRUSH CIRCULATORS *Go to Sea!*

FOR VICTORY

BUY WAR BONDS

ON ALL the "seven seas" United States Cruisers, Destroyers, Tankers, Escort Vessels, Coast Patrol Boats, Navy Rescue Tugs, Net Tenders, Sub-chasers and Mine Sweepers as well as Cargo Vessels and Lighters equipped with Thrush Water Circulators and other Thrush equipment are fighting the battle for Freedom! Thrush Circulators are used for heating, to circulate domestic hot water, cold drinking water and for many other purposes. We are proud that the quality of Thrush equipment meets the strict requirements of Naval work. While all our facilities today are devoted to winning the war, we are still making Thrush Circulators, Relief Valves, Reducing Valves, Heaters, Controls and other heating specialties which can be furnished for modernization or replacement work under Government priorities. Write Department A-5 for more information now.

H. A. THRUSH & COMPANY, PERU, INDIANA



The Case of the Missing Bathtub ★

Essential materials that might have gone into the production of Kohler bathtubs are going to battle instead.

Much of today's war housing is destined for permanent occupancy. There will be a substantial market for you in the post-war period if space is provided in wartime homes for future installation of bathtubs.

Americans insist upon bathtubs. Women particularly have favored tub-bathing facilities for their own use and for their children. Homes in which provision has been made for the tub will have a greater interest to prospective tenants and owners.

Why not talk to architects, builders, owners, and to others in the construction industry about the importance of foresight in planning bathrooms?

You can not only render an important service to future owners and tenants, but you can build post-war business for yourself. Kohler Co. Established in 1873. Kohler, Wisconsin.

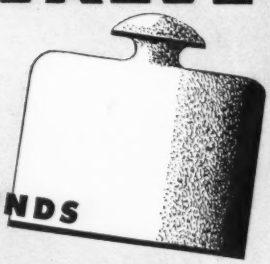
★ BUY UNITED STATES WAR BONDS ★

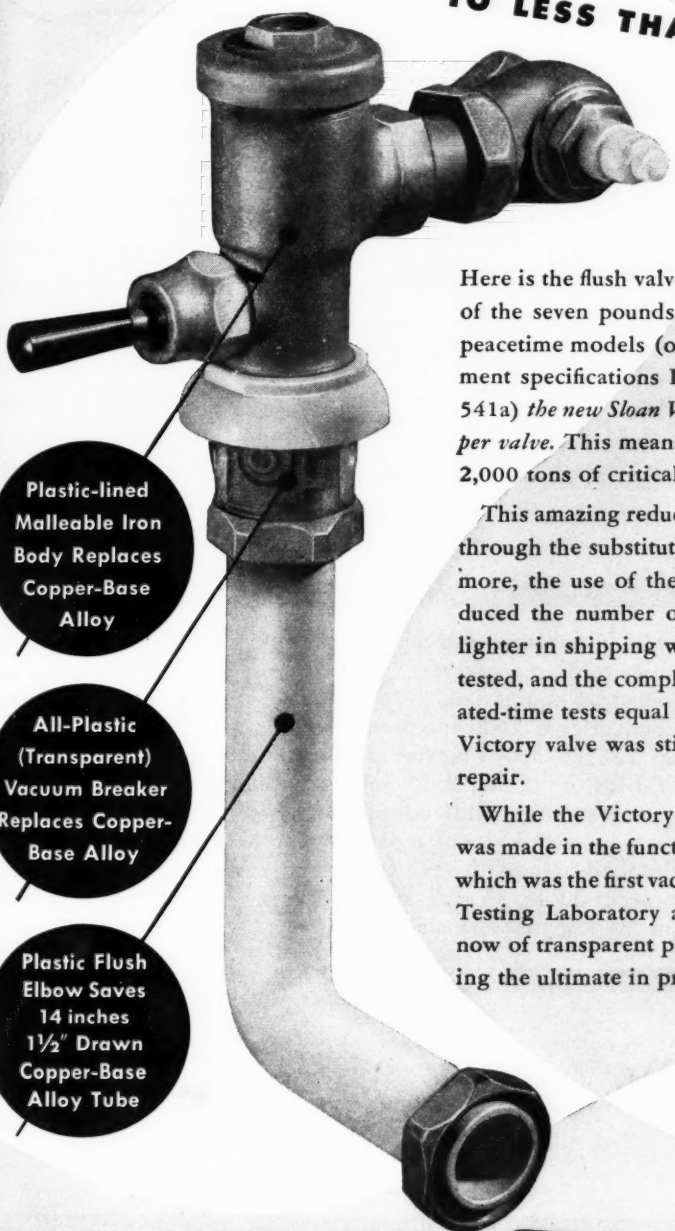
KOHLER OF KOHLER

PLUMBING FIXTURES AND FITTINGS · HEATING EQUIPMENT · ELECTRIC PLANTS

THE SLOAN *VICTORY* VALVE

REDUCES COPPER CONTENT FROM SIX POUNDS TO LESS THAN FOUR OUNCES—





Plastic-lined Malleable Iron Body Replaces Copper-Base Alloy

All-Plastic (Transparent) Vacuum Breaker Replaces Copper-Base Alloy

Plastic Flush Elbow Saves 14 inches 1½" Drawn Copper-Base Alloy Tube

Here is the flush valve that *really* saves critical materials. Instead of the seven pounds of copper-base alloy formerly used in the peacetime models (or the 2¼ pounds permitted by War Department specifications PE-623 and Federal Specification E-WW-P-541a) *the new Sloan Victory valve uses less than four ounces of copper per valve.* This means that Sloan alone is saving the nation over 2,000 tons of critical copper per year.

This amazing reduction in critical materials was brought about through the substitution of plastics and malleable iron. Furthermore, the use of these substitute materials has appreciably reduced the number of parts, and the new valve is 2½ pounds lighter in shipping weight. All parts have been thoroughly field tested, and the complete valve has undergone laboratory accelerated-time tests equal to 10 years normal service, after which the Victory valve was still working perfectly and without need for repair.

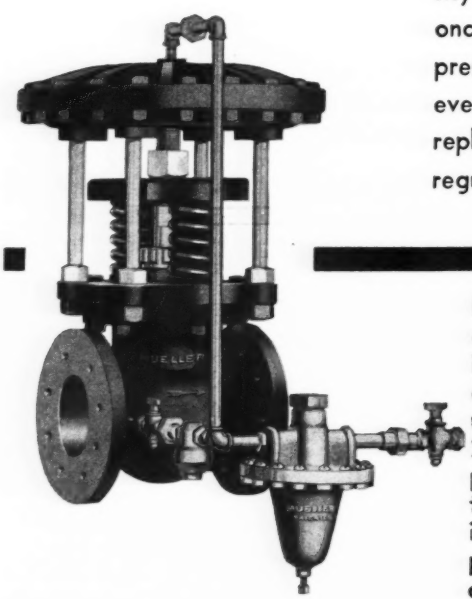
While the Victory Vacuum Breaker is all-plastic, no change was made in the functional design of the original Sloan V-100-A, which was the first vacuum breaker to be approved by the N.A.M.P. Testing Laboratory at the University of Iowa. Its outer-shell, now of transparent plastic, permits *visual* inspection, thus assuring the ultimate in protection against back-syphonage.

SLOAN VALVE COMPANY
4300 West Lake Street
CHICAGO

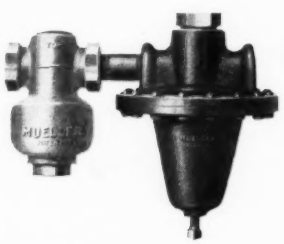
SLOAN *VICTORY TYPE* FLUSH VALVES

NO "ALL PURPOSE" REGULATOR CAN EFFECTIVELY SERVE EVERY PROBLEM

I know—because I have worked with regulating valves for years. There is nothing that equals a regulator built to fit the job at hand. . . Personally, I'll take MUELLER Regulators every time. There are no extra parts to change or lose, and any adjustments are easy to make. My experience has been that they are mighty easy to install, and, once in the line, keep right on delivering the goods at the exact pressure for which they are set. No fluctuation—just a steady, even delivery day after day. And if parts do wear and need replacing they can be renewed in a jiffy without taking the regulator from the line.



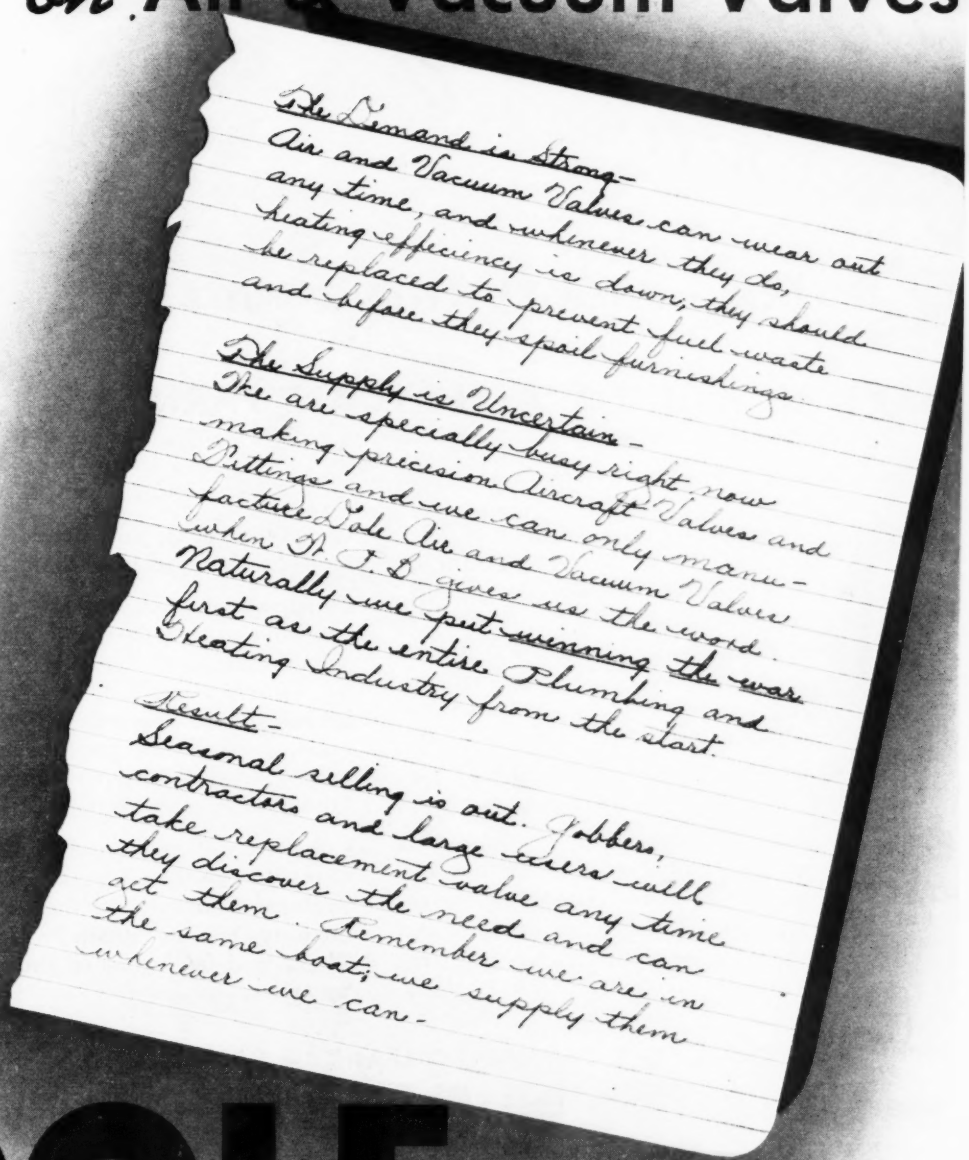
H-9020 Pressure Reducing and Regulating Valve. For hot or cold water, air, and gas. Used largely on district services and industrial equipment. Sizes ⅜" to 12". Flange or screw end connections. Delivery pressures up to 75 lbs. Inlet pressure up to 125 lbs. Heavier patterns used for pressures up to 200 lbs. or higher. . . . H-9070. Similer pattern, sizes, and pressure ranges, but adapted for steam and hot oil installations . . . It is recommended that a MUELLER Strainer be installed preceding each type of regulator. The strainer offers protection to all delicate mechanism as well as to fixtures on the low pressure side.



H-9080 Valve. For steam or hot oil. Used in heating, cooking, and process installations. Sizes ¼" to 2". Inlet pressure up to 200 lbs. Delivery pressures up to 75 lbs. All models shown are iron with bronze working parts, and phosphor bronze diaphragms. Strainer is cast iron with phosphor bronze screen. Fully protects the regulator seat.

MUELLER CO. ❖ DECATUR, ILL.

WARTIME MEMO
on Air & Vacuum Valves


The Demand is Strong-
Air and Vacuum Valves can wear out
any time, and whenever they do,
heating efficiency is down, they should
be replaced to prevent fuel waste
and before they spoil furnishings.
The Supply is Uncertain -
We are specially busy right now
making precision Aircraft Valves and
Fittings and we can only manu-
facture Dole Air and Vacuum Valves
when U. S. D. gives us the word.
Naturally we put winning the war
first as the entire Plumbing and
Heating Industry from the start.
Result -
Seasonal selling is out. Jobbers,
contractors and large users will
take replacement valve any time
they discover the need and can
get them. Remember we are in
the same boat; we supply them
whenever we can -

DOLE
Air & Vacuum VALVES

THE DOLE VALVE COMPANY • **1901-1941 Carroll Avenue, Chicago, Ill.**

REPRESENTATIVES IN PRINCIPAL CITIES

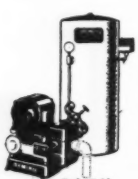
A Campaign for Victory

TO HELP KEEP RUNNING WATER

A VITAL AID TO AMERICAN FARMERS

MARVEL

As a participating member of The Electric Water Systems Council, The Deming Company pledges full cooperation with the Council's 1943 campaign to help keep RUNNING WATER a vital aid to American farmers under wartime conditions.

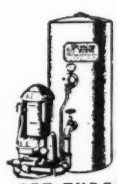


DUPLEX

The Council's 1943 campaign includes radio broadcasts, newspaper advertisements, and a service and repair manual (Free) for use by owners of electic pumps and water systems. Complete information on the details of this campaign are available to Distributors, Dealers, County Agents, and other "key men in the agricultural field."

To supplement this nationwide cooperative campaign of The Electric Water Systems Council, the Deming "Pump Protection Plan," now in its second war-year of operation, becomes of greater importance than ever to Deming Distributors and Dealers.

Complete information on the 1943 Campaign of The Electric Water Systems Council and the supplementary Deming "Pump Protection Plan" will be furnished promptly upon request.



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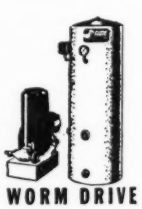
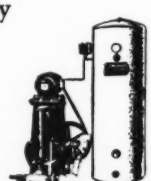


WORM DRIVE

MARVELETTE



OIL-RITE (Fig. 1062)

THE DEMING COMPANY • SALEM, OHIO

DEMING

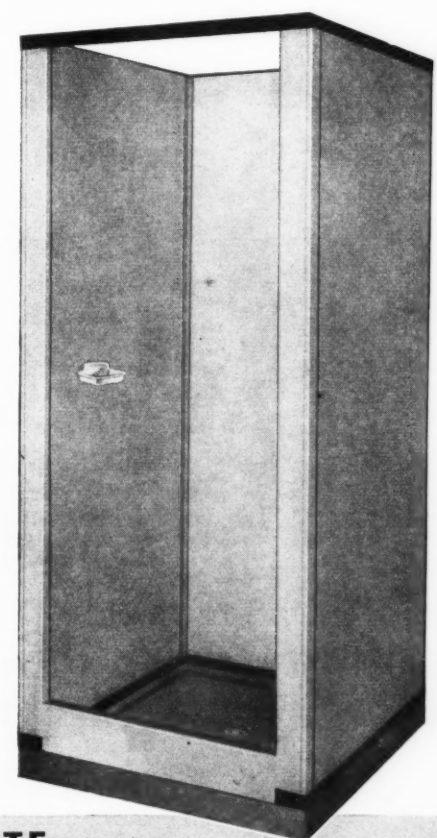
PUMPS AND WATER SYSTEMS

Race against Time . . . won with

Bathe-Rite
SHOWER CABINETS

Many Contractors have said that when the "Heat's on" to get building projects finished on time, it's good to have BATHE-RITE SHOWER CABINETS on the job . . . Because experience has proven they install MORE BATHE-RITES in shorter time, with fewer men, and at less cost!

Remember this when you're up against time—and MUST have attractive, sturdy, rigid shower facilities that meet the highest wartime standards! BATHE-RITES are engineered for time-saving installation. There are fewer parts to handle, and these parts assemble so simply that even unskilled workers can make new time records on the job. Two reasons for this speedy assembly are the exclusive Separate Mounting Frame and the Friction Joint assembly feature.



If YOU haven't proven the benefits of completely prefabricated BATHE-RITE Shower Cabinets on your building projects—WRITE OR WIRE FOR DETAILS AND PRICES TODAY!

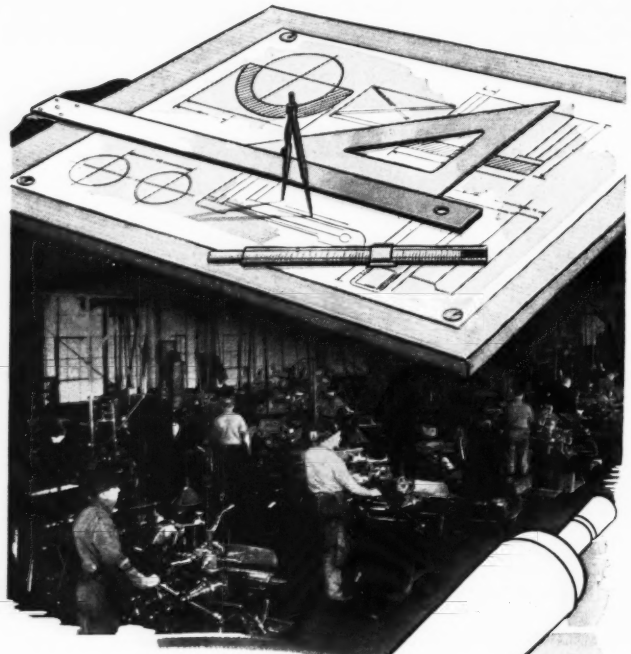
Made in two standard sizes—30 x 30 x 75", 32 x 32 x 75". Easily comply with War Department and F. P. H. A. Specifications.

USE SPACE-SAVING **BATHE-RITES** for WAR HOUSING REMODELING!

Delivery assured on any quantity. Give name of project and quantity required.

Bathe-Rite division
MILWAUKEE STAMPING COMPANY
804S South 72nd Street, Milwaukee, Wisconsin

★ ★ QUALITY-BUILT by BATHE-RITE ★ ★



SKILL TO *Design* FACILITIES TO *Produce*

For its more than twenty pre-war years, Williams Oil-O-Matic design, construction and performance won undisputed world leadership of the oil heating industry. No other oil burner even approached Oil-O-Matic in number of exclusive, patented features or number of installations.

Today, this skill to Design and Facilities to Produce are working for Victory! Oil-O-Matic's past experience, coupled with War's know-how are going to mean even finer Williams Oil-O-Matic products tomorrow.

★ ★ ★

Today, the money that would ordinarily be spent for home appliances is going into billions of dollars worth of War Bonds. Today, the materials and precision building that would ordinarily go into Williams Oil-O-Matic products are going into battle-winning war equipment! Tomorrow, however, war-time experience and War Bond dollars will be converted into the world's finest, most modern automatic heating in tens of thousands of American homes.

WILLIAMS
OIL-O-MATIC
HEATING

ARMY E NAVY

Precision-production "know-how" and experience. Proved in Peace—Proved in War! Oil-O-Matic's Skill to Design and Facilities to Produce have won the coveted Army-Navy "E."

★ ★ ★ ★ ★ ★ ★ ★ ★

BUY WAR SAVINGS STAMPS & BONDS

THE BONDS YOU BUY TODAY ARE YOUR GUARANTEE OF A *Better Tomorrow!*

WILLIAMS OIL-O-MATIC HEATING CORPORATION

BLOOMINGTON, ILLINOIS

BULL'S EYE!

. . . thanks to the weather in South Bend, U. S. A.

ANTI-AIRCRAFT bull's eyes are not luck. They are scored by accurate gunners operating accurate guns. And gun accuracy is a built-in feature—made possible by ideal production weather in an American gun factory back home.

Consider the case of the manufacturer of delicate bearings for anti-aircraft guns. Nothing short of perfection is acceptable in these bearings. Variation of a fraction of a hairline may mean the difference of a Zero down, or a Zero dealing out death and destruction.

But even the gauges used for checking bearings vary with varying weather conditions. So in this particular factory the problem of delivering perfect bearings was solved by using Trane air conditioning equipment to keep constant temperature in the gauge room.

In other wars, weather on the production front was a temperamental neutral—helping or hindering the manufacturing efforts of friend and foe alike.

In this war, weather—predetermined and rigidly controlled—is our ally. It helps our planes fly faster, farther, and higher . . . gives us more and better ammunition . . . helps assure the accuracy of our weapons . . .

So Trane "weather magic" plays here, as it does in many another war factory, an important role in the production effort. Skilled Trane field engineers, working with Government and industry, have applied this wide line of air handling and heat transfer equipment to maneuver neutral but unpredictable weather into an invaluable production ally.

And from what Trane is doing today will develop improved standards for the America of tomorrow . . . greater comfort, better health and living—thanks to Trane air conditioning—in the better days that are to come.

TRANE

AIR

THE TRANE COMPANY LA CROSSE, WISCONSIN

TRANE COMPANY OF CANADA, LTD., TORONTO

AIR CONDITIONING · · HEAT TRANSFER · · AIR HANDLING EQUIPMENT

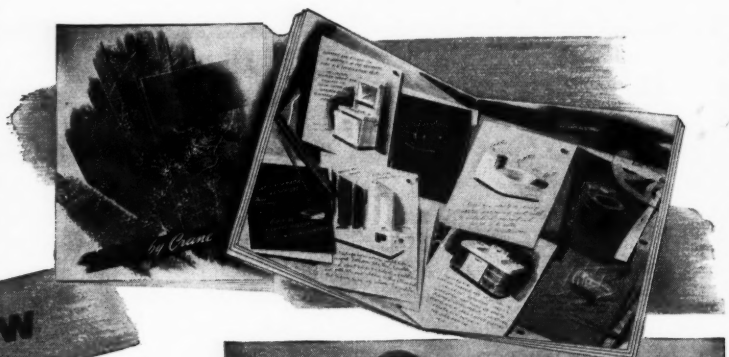
SERVING CRANE DEALERS *of the present and future*

TODAY

TO AID dealers in the present emergency, Crane has developed a line of equipment, using a minimum of critical materials which have received the approval of the Government.

This equipment enables dealers to provide necessary repair and maintenance in their communities or to supply plumbing and heating to industries, schools, hospitals or war housing.

In addition, Crane Branches will aid dealers in preparing the necessary forms required by the Government on the jobs on which they are working.



TOMORROW

CRANE is also looking ahead to postwar business. Right now, an investigation is being made, nation-wide in scope, to discover what home owners and prospective home owners will want in plumbing and heating equipment after the war.

A colorful booklet, filled with stimulating ideas, is being widely distributed, and advertising in such publications as THE LADIES' HOME JOURNAL, PARENTS', BETTER HOMES & GARDENS, is telling this story to millions of readers.

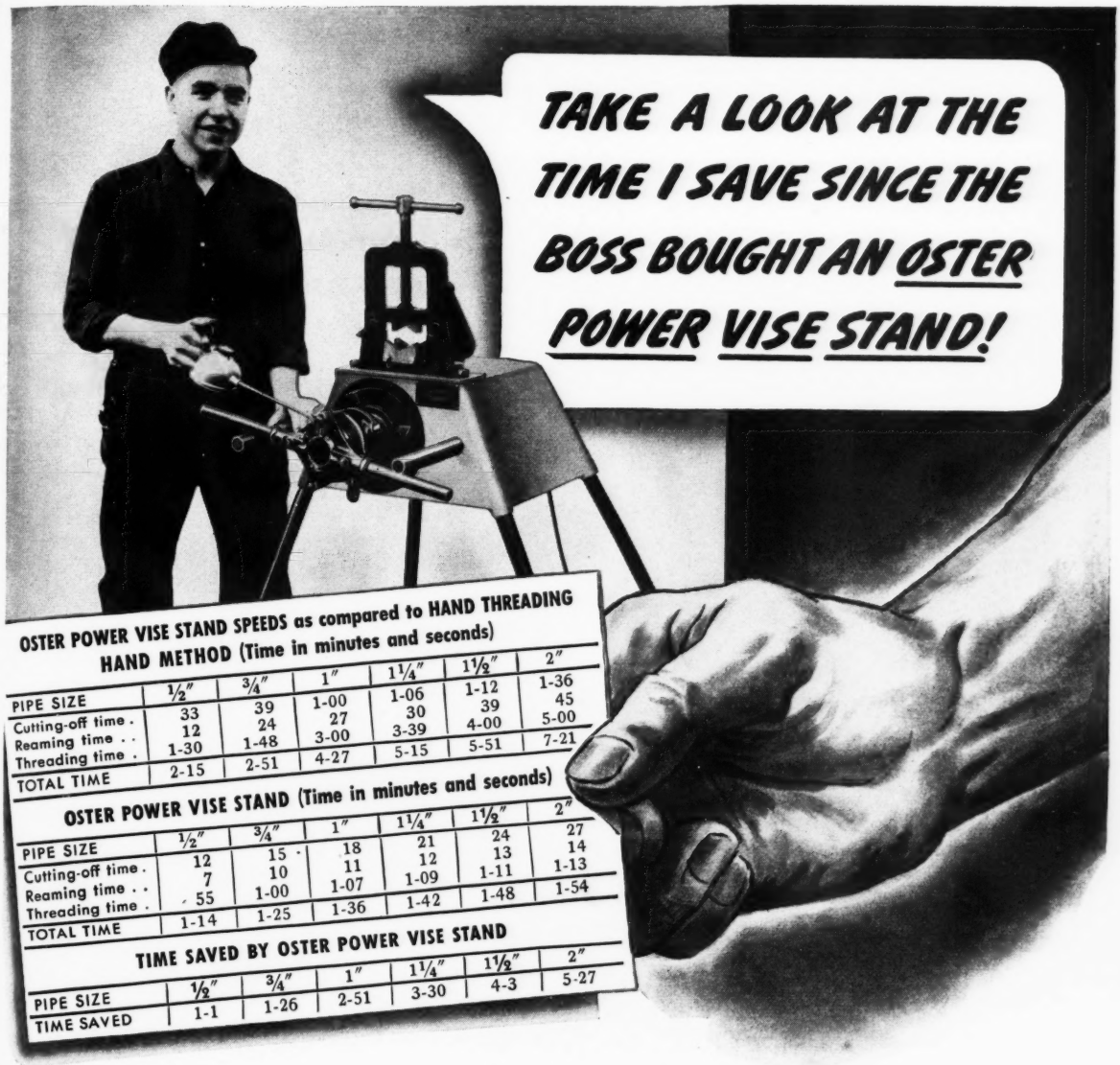
This whole effort is being tied in directly with the dealer by a colorful poster, which emphasizes the service he can render today and points to the new equipment he will be able to furnish when the war is won.

CRANE

CRANE CO., GENERAL OFFICES:
836 S. MICHIGAN AVE., CHICAGO

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING CONTRACTORS



OSTER POWER VISE STAND SPEEDS as compared to HAND THREADING HAND METHOD (Time in minutes and seconds)

PIPE SIZE	½″	¾″	1″	1¼″	1½″	2″
Cutting-off time	33	39	1-00	1-06	1-12	1-36
Reaming time	12	24	27	30	39	45
Threading time	1-30	1-48	3-00	3-39	4-00	5-00
TOTAL TIME	2-15	2-51	4-27	5-15	5-51	7-21

OSTER POWER VISE STAND (Time in minutes and seconds)

PIPE SIZE	½″	¾″	1″	1¼″	1½″	2″
Cutting-off time	12	15	18	21	24	27
Reaming time	7	10	11	12	13	14
Threading time	55	1-00	1-07	1-09	1-11	1-13
TOTAL TIME	1-14	1-25	1-36	1-42	1-48	1-54

TIME SAVED BY OSTER POWER VISE STAND

PIPE SIZE	½″	¾″	1″	1¼″	1½″	2″
TIME SAVED	1-1	1-26	2-51	3-30	4-3	5-27

It's a waste of time and money to thread pipe by hand when the same work can be performed faster, better, and at lower costs with the Oster No. 422 Power Vise Stand.

You can purchase the machine without the legs as it's a simple job to make them from standard 1″ pipe. The operator can use his own die-stocks, cutters, and reamers and mount his own vise on the Oster Power Vise Stand.

Use convenient form below to ask us for complete information.

★ ★ ★ ★ ★ **OSTER** ★ ★ ★ ★ ★

FOR QUICK ACTION MAIL THIS

THE OSTER MANUFACTURING COMPANY
2045 East 61st Street, Cleveland, Ohio

Send complete information about the Oster No. 422 Power Vise Stand.

NAME.....

COMPANY.....

STREET.....

CITY..... STATE.....

HERE'S SIMPLIFIED SPECIFICATION DATA

on Flush Valves for Wartime Projects

This bulletin provides:

- ✓ Information on Watrous "V" Flush Valves which are available for essential wartime construction.
- ✓ A simplified reference chart which shows the proper flush valve combinations to use to comply with War Department specifications.

Write for your copy.

THE IMPERIAL BRASS MFG. CO.
1231 West Harrison Street, Chicago, Illinois

Watrous
Flush Valves

Distributed through wholesalers of plumbing materials

ALL OUT!

That they can stand the rigors of smashing gunfire and pounding surf and battering beaches *everywhere* amply justifies their extensive use today by our navy. And we at Brown Steel Tank —well, we're just mighty grateful that these barges we've made will take the boys there safely.

LOOK WHAT'S IN STORE FOR AFTER THE WAR!

A BROWNIE TANK

SEPTIC TANKS — Brownie Septic Tanks, built to provide maximum effectiveness of septic action, maximum resistance to corrosion. All welded construction. New metals and coating assure greater strength.

EXPANSION PRESSURE TANKS — Expansion Pressure Tanks, built in all sizes to accomodate the new specifications for strength and trouble-free usefulness.

HOT WATER TANKS — Hot Water and Air Pressure Tanks, approved for character of construction and safety in use. Available for large or small capacity.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

ALL OUT FOR VICTORY

BROWN STEEL TANK CO.

NOT AFFILIATED — ONE OFFICE, ONE PLANT — MINNEAPOLIS, MINNESOTA

We are proud of this symbol of distinguished service awarded to the Hammond Brass personnel for work well done—proud of the product we make that is in service for victory.

HAMMOND VALVES—Standard of value with the trade for over 30 years

★ ★ ★

Brass and Bronze castings up to 5400 lbs. each. Copper Base Alloys, Aluminum Bronze, Manganese Bronze and PMG (copper silicon Iron Alloy) metal, produced to all Federal, Navy, Ordnance and individual specifications. Strict adherence to chemical and physical specifications.

HAMMOND BRASS WORKS
Hammond, Indiana

PUT YOUR SCRAP INTO THE FIGHT!

HAMMOND VALVES

Look for the (H) on the body— the mark of a dependable valve

NEW POST-WAR CUSTOMERS *in the making*

MACHINISTS MATES *get some pointers*

ON EXHAUSTING DANGEROUS FUMES!

ASK ANY MAN aboard one of Uncle Sam's "pig boats" and he'll tell you that at 20 fathoms down you get a new appreciation of the air you breathe. You learn and relearn the operation and maintenance of the vital ventilating system ... with special emphasis on the equipment that whisks away the deadly fumes from the submarine's storage battery tanks.

In fact, wherever the Stars and Stripes sail men are acquiring new skills and learning new trades that will better fit them for a place in our postwar world. And *all* learning one lesson that means much to you...the importance of "Air at Work". Don't think they will forget this lesson when they return to civilian life as part of a huge postwar commercial and industrial market. In countless garages, service stations, airports, and industrial process plants, there will be a greater demand than ever before for properly designed fume control and ventilation equipment. A market, ready-made for contractors, that can be readily sold on your services—after Victory.

Remember, Sturtevant is ready to help you with today's problems in any way we can. Our role in war is the same as it has always been—the manufacture of air handling equipment—but Uncle Sam must get first call. In designing the more compact, more efficient equipment for America's war needs, we are learning many ways to make Sturtevant fans and heaters and air conditioning units better than ever before. Count on them when making your plans for tomorrow.

B. F. STURTEVANT COMPANY, Hyde Park, Boston, Mass.

STURTEVANT UNIT HEATERS

Speed Heater

Multivane Heater

Downblast Heater

STURTEVANT VENTILATING FANS

Silentvane Design 7 & 8

Multivane Design 6

Victory Axiflo

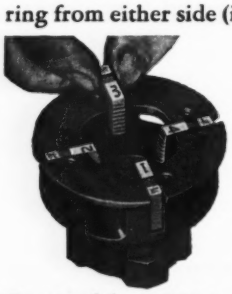
STURTEVANT AIR BLENDERS

STURTEVANT UNIT VENTILATORS

Sturtevant
REG. U. S. PAT. OFF.
Puts Air to Work

Speedier Pipe Threading with this smooth little RIDGID No. 11R

IT'S always hurry these days. Well, if your rush is to thread ⅛ to 1¼ inch pipe, grab up this little RIDGID No. 11R, snap the size head you want into the drive ring from either side (it can't fall out) and start threading in swift easy ratcheted strokes. If it's a short pipe and close to the wall, simply reverse the chasers — no special dies needed. A rugged steel-and-malleable tool that takes stiff punishment. Patented wire carrier free with sets. Ask your Supply House for this smooth little RIDGID No. 11R.



Chasers of these RIDGID Threaders reverse *quickly* for close-to-wall threads.

RIDGID Scraps Your Wrench Housing Repair Problem

UNCONDITIONAL GUARANTEE
If this Housing ever Breaks or Distorts we will replace it Free
COPR. 1937 THE RIDGE TOOL CO. ELYRIA, O.

This Guarantee means RIDGID Wrenches Stay on the Job . . .

UNDER war emergency or post-war competition you can't afford to waste either time or money repairing pipe wrenches. That makes RIDGID important to you. The guaranteed housing practically insures you against wrenches out of order, off the job — cuts expense and spares needed. And it's faster easier to use. Handy pipe scale on hookjaw, adjusting nut in open housing always spins easily to pipe size, powerful I-beam handle is comfortable to the hand. For a trouble-proof work-saver tool . . . always ask your Supply House for RIDGID.

RIDGID End Wrench for pipe in coils or against flat surfaces. Made in sizes E6" to E36".

Buy RIDGID Pipe Tools at Supply Houses Everywhere

RIDGID
★ PIPE TOOLS ★

THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

Fast-Working Tools for War . . . and the Busy Peace that's Coming

It will pay you to *Remember* this name

Thousands of plumbing, heating and air conditioning contractors during the war-free years behind us have taken a profit from the fourteen definite points of superiority of Fretz-Moon Pipe.

Today, the features of this original continuous weld pipe are speeding the construction of war buildings and war equipment.

This will go on until steel is no longer a critical material—until the war is won. Then will come a wealth of new and replacement operations held over during this emergency. That's why it will pay you to remember this time-and-effort-saving pipe—Fretz-Moon.

FRETZ-MOON TUBE COMPANY, INC., Butler, Pa.
Makers of black and galvanized steel pipe—in UNIFORM LENGTHS

WHEN YOU BUY PIPE REMEMBER THESE

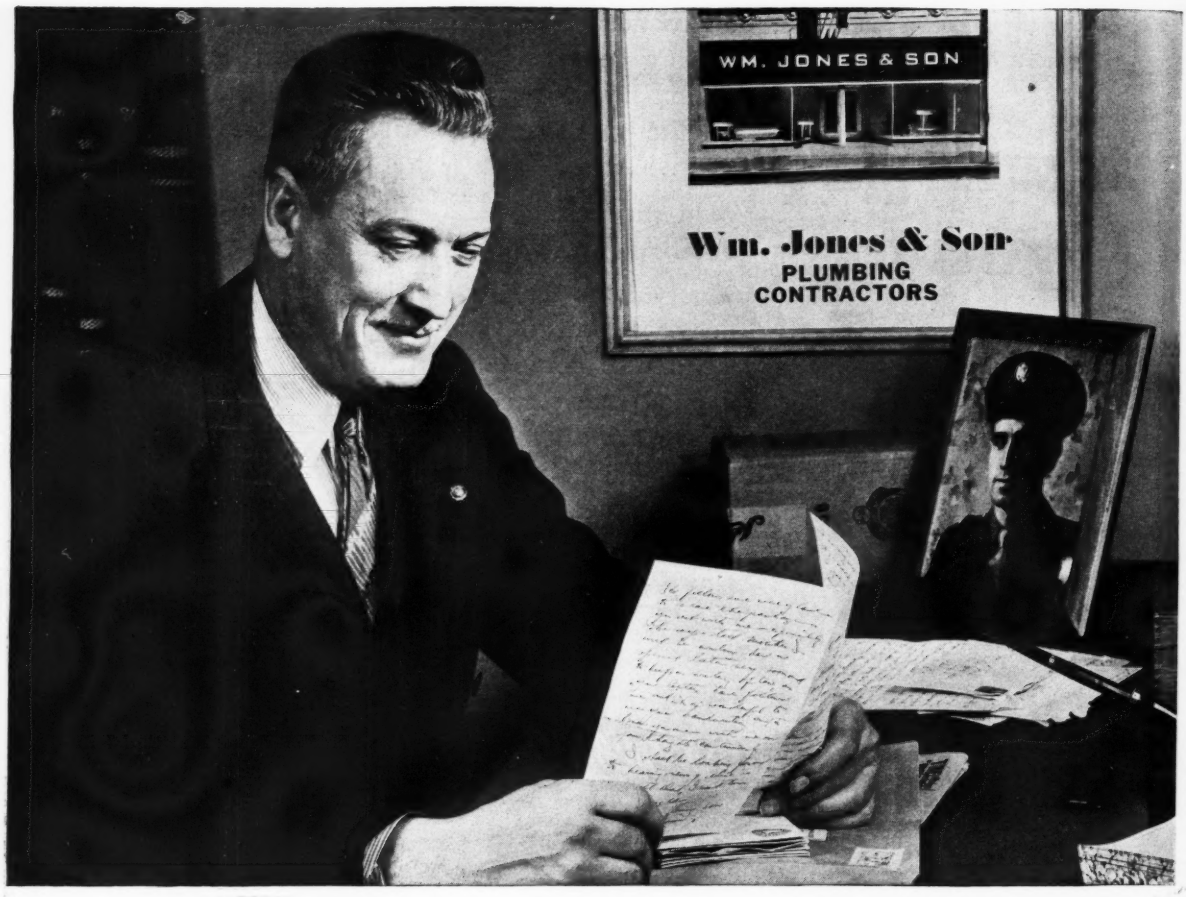
14 Points

OF FRETZ-MOON SUPERIORITY

- Uniform in quality
- Uniform in size
- Uniform in wall thickness
- Uniform weld
- Uniformly soft and ductile
- Uniformly threaded
- Uniformly easy to cut
- Uniformly easy to thread
- Uniformly easy to bend and coil
- Uniformly easy to weld
- Uniformly easy to fit
- Uniformly clean and free from scale
- Uniformly galvanized with a smooth tight coating
- Uniform lengths

★ ★ ★

Made Also in Extra Long Lengths



Jim's letters have plenty to say

Trust a son to break good news with a wisecrack. He writes—It takes a Master Plumber to be a Master Sergeant.

And he's keeping his business eye peeled, too. Listen to this—Don't know how many plumbing fixtures there are down here at Camp Chaffee*, Dad, but figure the needs of —— thousand super-active soldiers and you'll get a general idea. That Avon lavatory we used in the new factory job before I left is part of the equipment here. We have Case wall-hung urinals in the barracks too, while the big hot water storage tanks are also Case. And Bill writes me that at Aberdeen* it's the same.

90 YEARS 1853 CASE 1943 OF SERVICE

Yesterday on the rifle range...

**Camp Chaffee (Arkansas) and Aberdeen Proving Ground (Maryland) are typical of the large Army establishments in which Case equipment is to be found.*

You can appreciate the call that direct war needs make on all Case facilities when we add that not only many Army Camps and Army Air Bases, but Naval Training Stations and Marine Corps Barracks are Case-equipped. Meanwhile we'll do the very best we can to help you meet the civilian's needs for maintenance and repair. W. A. Case & Son Manufacturing Co., Buffalo, New York.

CASE

VITREOUS CHINA PLUMBING FIXTURES
WELDED METAL PRODUCTS

AMERICAN *PLASTIC* PLUMBING SPECIALTIES

FOR IMMEDIATE DELIVERY

AMERICAN MOLDED comes to the aid of the Plumbing Trade with new and better fittings—even though we are on war production schedule of seven days a week, 24 hours a day.

AMERICAN Plastic Specialties are *permanent* improvements—here to stay. Best adapted plastic materials, most durable, corrosion proof, precision molded give AMERICAN a big lead in sales.

New Items being Developed—AMERICAN engineers are constantly developing new plumbing products for you to sell and use.

You'll find a lot of "extras" wrapped up in this line to help your business. Catalog sheets and price lists are ready. Ask for them.

Our manufacturing facilities have been increased by addition of 40,000 sq. ft. floor space. We *can* and *are* producing more and *faster*.

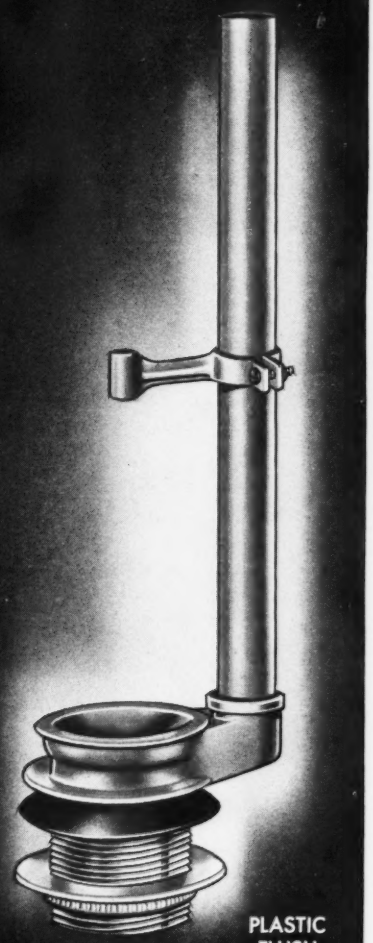
AMERICAN MOLDED PRODUCTS SALES CO.

1752 N. Honore St., Chicago, Ill.

When you buy AMERICAN you are dealing direct with the manufacturer. Order from our Sales Office or Branches.

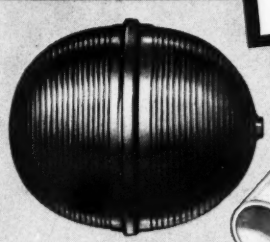
Branch Offices Located In Principal Cities

J. M. Butts Co.....Bona Allen Bldg. Atlanta, Ga.
J. M. Kane.....P. O. Box 1552 Fort Worth, Texas
John Livingstone & Co. 164 Jackson St. Seattle Wash.
Mitchell Love.....712-16 No 16th St. Philadelphia, Pa.
Potter-Roemer Co.....2432 E. 8th St. Los Angeles, Cal.
Clyde Cary.....703 Market St. San Francisco, Cal.
Products Preferred, Inc..47 Kemble St. Boston, Mass.
Paul R. Spencer Co.....4000 York St. Denver, Colo.
John G. Kelly, Inc., 24-14 Bridge Plaza South Long Island City, New York

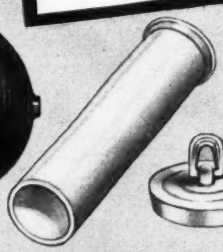


PLASTIC FLUSH VALVES

MORE UNITS COMING! WATCH OUR ADVERTISEMENTS



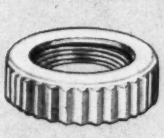
TANK FLOATS (2 sizes)



TAIL PIECES (2 sizes)

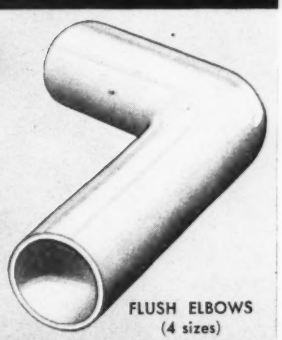
STOPPERS (7 sizes)

FLUSH VALVE WASHERS (Rubber)



SLIP NUTS (4 sizes)

PLASTIC CLOSET SPUDS



FLUSH ELBOWS (4 sizes)

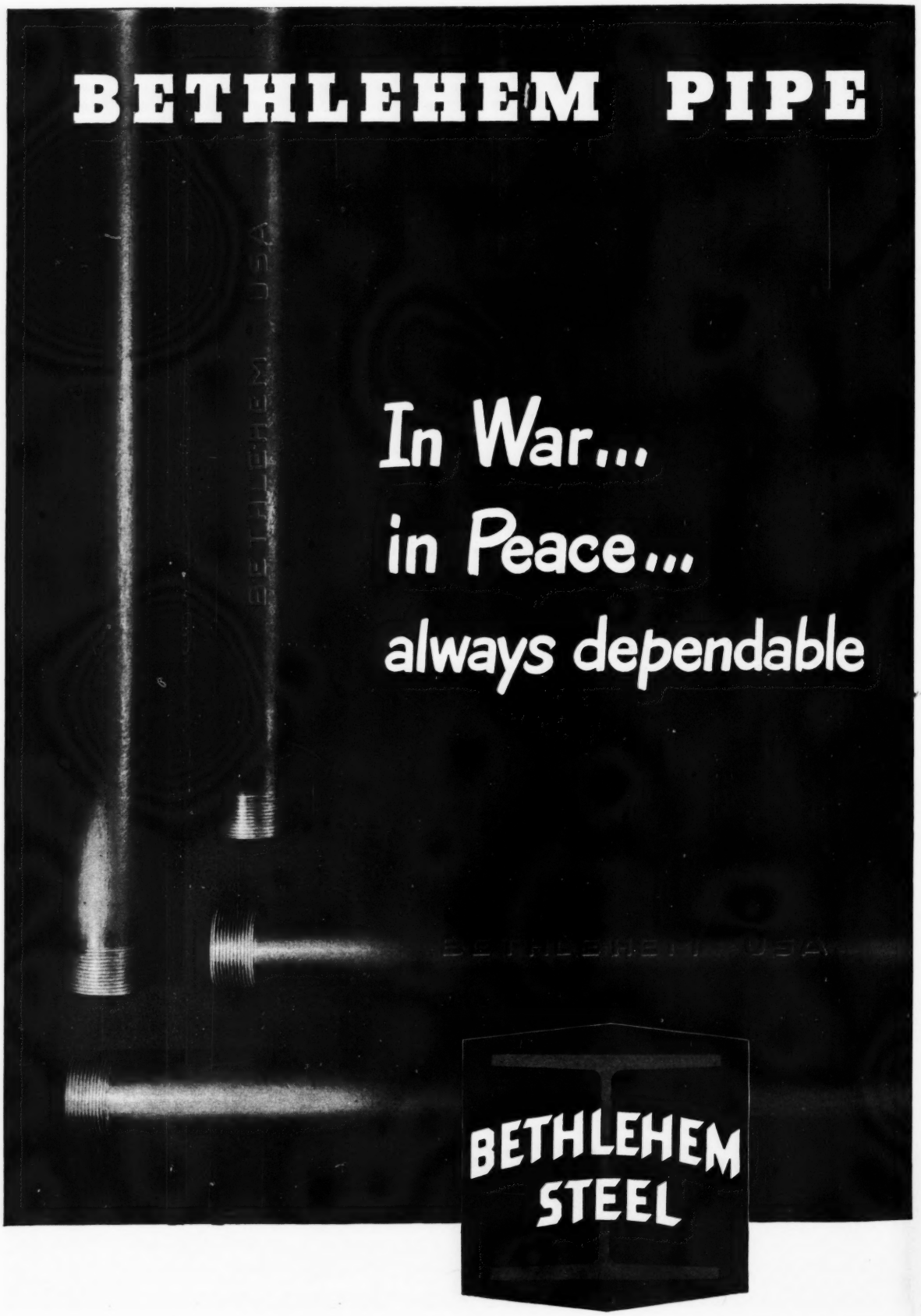
AMERICAN MOLDED PRODUCTS COMPANY

AMP CO

ORIGINATORS AND PIONEERS OF PLASTIC PLUMBING SPECIALTIES

1644 N. HONORE ST. • CHICAGO, ILLINOIS

The American Shield Identifies Consistent Quality


BETHLEHEM PIPE
In War...
in Peace...
always dependable
BETHLEHEM
STEEL

DELANY FLUSH VALVE equipped with NO. 50 VACUUM BREAKER, a device that prevents water contamination, telltales back syphonage. DELANY VALVES are noted for their simplicity and freedom from breakdown.

TOMORROW'S PLANNING

There is a bright future coming for community life in America. The pattern is in the weaving, the plans are on the boards, the funds in committees' hands awaiting the return of peace.

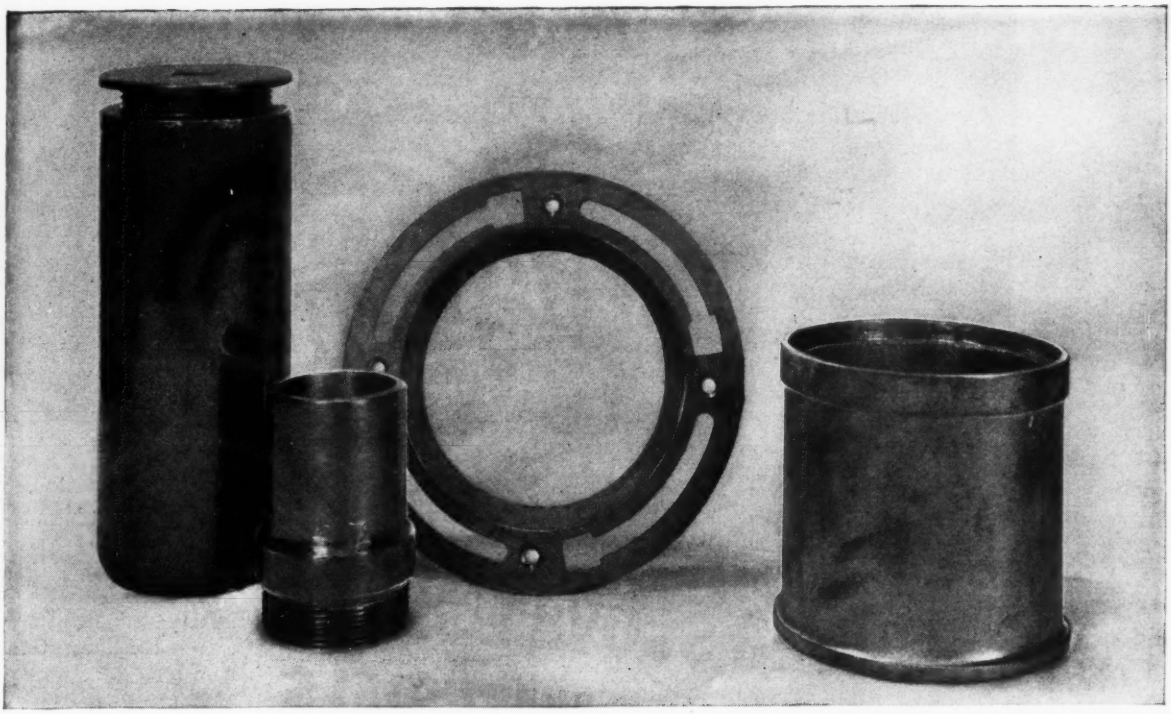
The acceptance of the FLUSH VALVE in private homes is but one of the foreshadowing changes now accepted as fact. War building has proved this. The water economy, efficiency of purpose, and freedom from fault and common maintenance of the DELANY FLUSH VALVES, over past accepted methods of domestic sanitation, earns them a place in your plans for modern community improvement.

SINCE 1879

Coyne & Delany Co.

BROOKLYN N.Y.

The
INDIANA BRASS
Company
FRANKFORT, INDIANA
Makers of closet
tank fittings and plumbing
specialties.
PRESIDENT
INBRACO



Lead drum trap with hard lead cover and ring, hard lead solder nipple, floor flange, and calking ferrule — all now on the market or soon will be.

New HARD LEAD FITTINGS

to make your plumbing installations complete

Many of the metals used by plumbers are scarce today, but lead continues available for plumbing without major restrictions. So that nothing need interfere with your lead installations, we have developed a number of hard lead fittings to take the place of those made of scarce metals. Pictured here are some of those fittings, either already on the market or soon to be made available. Used with lead pipe, traps, bends and flashings, you need very little critical metal to make a plumbing installation. By making joints by lead welding, you can even eliminate the small amount of tin used in solder. » » » Help conserve critical metals for the war effort by installing lead plumbing, with hard lead fittings, and welded joints wherever possible, as WPB classes lead as most available of the plumbing metals.

SEAL OF
LEAD INDUSTRIES'
APPROVAL

Lead pipe, calking lead, traps and bends, stamped with the "Seal of Approval", meet the standards of the National Bureau of Standards as required by the Emergency Plumbing Standards for Defense Housing.

If you are not receiving our helpful, free magazine, Plumbers' Forum, write for your copy and keep up with the latest developments in Lead plumbing, including complete information on lead welding for plumbers.

LEAD INDUSTRIES ASSOCIATION

420 LEXINGTON AVENUE, NEW YORK, N. Y.

YOU'RE MONEY AHEAD WHEN YOU WORK WITH LEAD

HERE'S THE SCOVILL SLANT ON SUBSTITUTE MATERIALS

Plumbing fittings have long been largely brass and copper. Today we are often asked how we feel about the new materials that wartime shortages are bringing forward.

We are for them wherever their safety and efficiency is in line with current Codes. There are two good reasons for our point of view.

Brass and copper are vital war materials. Today the Plumbing Industry *must* take all possible means of supplying substitute materials for repair and maintenance jobs as well as new work. But the Trade must also help by looking about locally for substitute materials when necessary to round out and install the products available through their usual sources of supply.

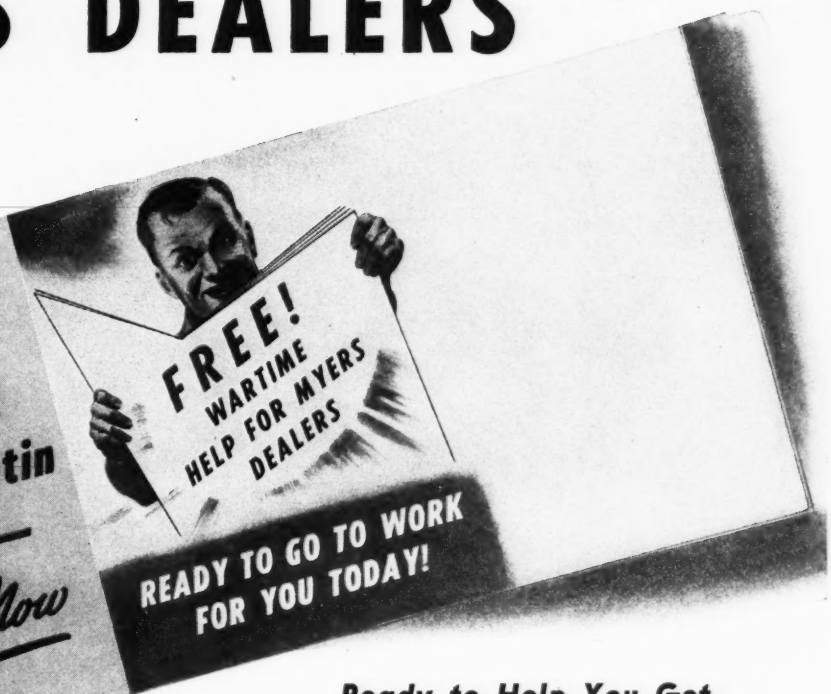
The post-war period is sure to bring a demand for better plumbing products at lower costs. Scovill feels that some of today's substitutes may play their part—and for many months has been investigating their possibilities. The Trade, in turn, can help and benefit by use and installation experience wherever possible.

SCOVILL

SCOVILL MANUFACTURING COMPANY
WATERVILLE DIVISION
GENERAL SALES
WATERVILLE, CONN.

SCOVILL
Masters of Metal

WARTIME HELP for MYERS DEALERS



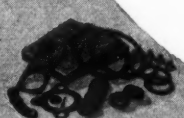
IF you didn't get this bulletin write for it— *Right Now*

PUMP OWNER'S BOOKLET
28 pages on care and maintenance of pumps and water systems. Reduces your unprofitable service calls by helping owners make minor adjustments and repairs.

NEW FOLDER
A small personalized folder to hand or mail to pump owners in your locality, telling them to come to you, an authorized Myers dealer, for repair service, replacements, extensions or a new water system.

COLORFUL DECALS
Wartime gives these identifying decalcomanias new importance. Use them on your store windows, car, trucks—the sign of good service!

HANDY REPAIR KITS
A quick-profit item — packaged in special new display box. For all Myers gearless shallow well pumps and water systems.



MAIL NOW

Take Off Your Hat To The MYERS
PUMPS · WATER SYSTEMS · SPRAYERS · HAY TOOLS · DOOR HANGERS

Ready to Help You Get Immediate and Sure Business!

If you haven't a copy of this illustrated bulletin on Myers' "Wartime Help," send for one today. It's an up-to-the-minute digest of the well-planned Myers dealer helps designed to meet your selling needs during these war days. It fully explains each one of these wartime aids and tells you how to use them all most effectively. All have been planned and are available so they can *work together* to bring you extra business and extra customer good will throughout the war period.

If you haven't already ordered these truly practical Myers' wartime aids, get out your "Wartime Help" bulletin and use the order blank! Or, if you haven't received your bulletin containing detailed information on these aids, mail the coupon now!

The F. E. Myers & Bro. Co.
150 Orange St., Ashland, Ohio

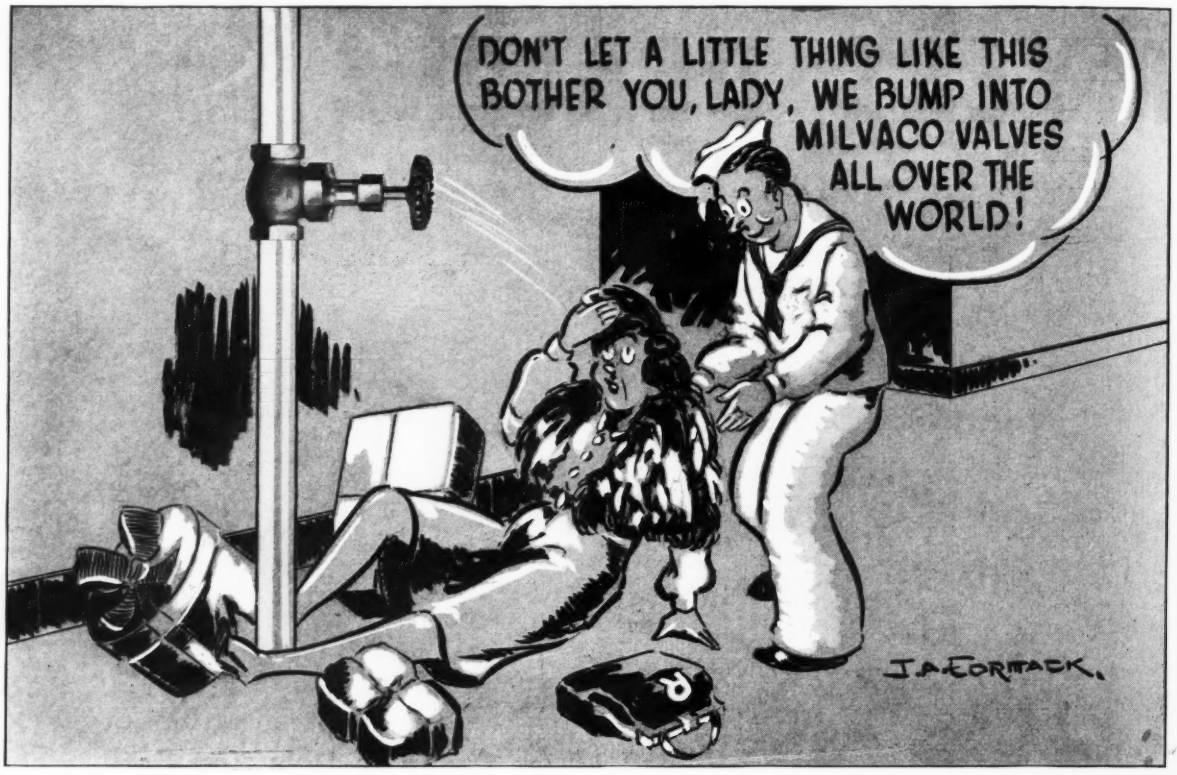
Send me your free illustrated bulletin on Wartime Help for Myers dealers.

Name .....

.....

City ..... *State* .....

IT CAN HAPPEN ALMOST ANYWHERE!



Today, while working at top speed... doing its part in the war of production... Milwaukee Valve Company is planning for the peace which is to come... a peace in a new world. A world which will richly benefit from the "Forced Draught" progress of wartime demands.

WE SAY ". . . . Almost Anywhere" because there are a few countries in the world where, today, we are frank to admit, we don't think you'll find MILVACO Valves. But, after the war, we fully expect to correct this condition.

With production facilities keyed to wartime emergency . . . with decided engineering advancements already distinguishing MILVACO Valves in service . . . and with an enviable record for getting things done, right, and in a hurry, we shall welcome the opportunity to again serve the host of recognized MILVACO Distributors all over the American continent, in addition to exporting a surplus production . . . WHEN PEACE RETURNS.

MILWAUKEE VALVE COMPANY

MILWAUKEE • WISCONSIN

HERE'S THE FINEST "Incentive Plan" WE KNOW

• *Technical Sergeant Ben Maricle, U. S. Army Air Corps, at home on leave, congratulates his father, Frank Maricle, American Brass press operator, on the production job he is doing.*

Nobody has to remind Frank Maricle, press operator at the Buffalo plant of The American Brass Company, about the importance of all-out production for U. S. war needs. He has the best of all reminders and "incentive plans" in his son, Ben . . . U. S. Army Air Corps Sergeant.

And so it is with thousands of other American Brass workers who have sons and brothers, cousins and nephews, in the armed forces. They know they are producing not merely metals but copper and brass war materials for *them* ...to help bring victory sooner. To date, over 3,500 former American Brass fellow workers, themselves, are serving in the armed forces of Uncle Sam.

The American Brass Company operates thirteen plants in U. S. and Canada which are working night and day on the same vital job . . . turning out the greatest volume of copper and brass in the company's history . . . every pound of it earmarked for victory. The five Army-Navy "E" pennants we've received are a challenge to still greater effort.

United America will win

As a nation and as individuals, the American people are united in fighting this war—on the battle front and on the home front . . . buying War Bonds . . . conserving rationed materials . . . making personal sacrifices . . . doing their part wherever they are.

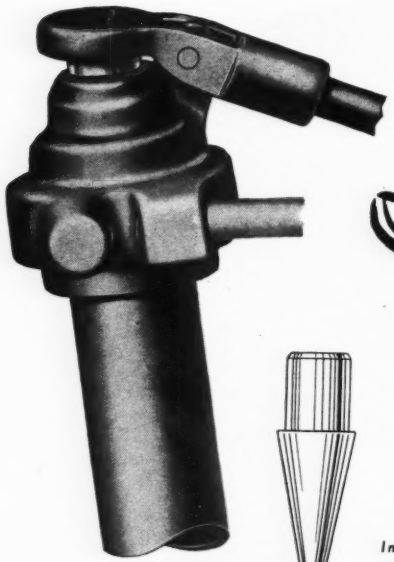
For instance, plumbers and heating contractors, despite drastically curtailed supplies of plumbing and heating materials, are doing a great job of maintaining health and comfort on the civilian front—both residential and commercial. Through inspection, servicing and available repairs, they are preventing many a small trouble developing into a large one—thus serving the public during this wartime emergency.

4341C

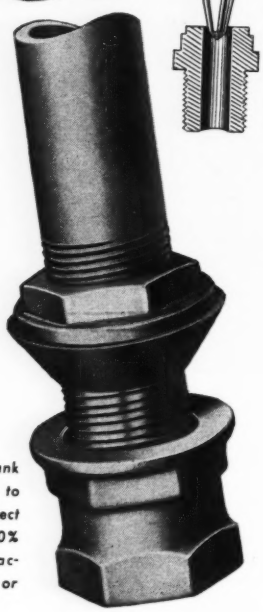
THE AMERICAN BRASS COMPANY
General Offices: Waterbury, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada: Anaconda American Brass Ltd., *New Toronto, Ont.*

ANACONDA
from mine to consumer

Anaconda Copper & Brass



Improved Glass Plunger—needle-valve self-aligning action assures positive shut-off under all conditions.



Adjustable shank makes it easy to install at correct height for 100% anti-siphon action in deep or shallow tanks.

2 MODELS FIT ALL TANKS

Model B-200 — For Tank Depths 11½" to 13¼"
Model C-300 — For Tank Depths 13" to 14¾"
Available on orders carrying A-10 Priority or better.

"They've done it again!"

"Yes sir! It's no use talkin' . . . you can't beat that Nigg outfit! They've made the new Nigg S & S Ballcock even better. They've taken out all the bugs that have always caused trouble in old-style ballcocks and come up with what's really a winner!"

New Nigg SINGLE LEVER

Eliminates extra parts that get out of order . . . corrode and stick. Simple in construction...direct in action. No "top flooding."

New Nigg NEEDLE VALVE TYPE GLASS PLUNGER

Absolutely fool-proof in action. Can't stick, bind or corrode. Assures *complete* shut-off *every time*. Tested over 29,000 times . . . with never a failure!

S & S CAST IRON BALL COCK PATENTED

SOLD BY ESTABLISHED PLUMBING SUPPLY JOBBERS EVERYWHERE

PLUMBING DIVISION

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GENERAL OFFICES: COVINA, CALIFORNIA
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WALSEAL
...serves well because it "fits the service"
WALSEAL Fitting
Oxyacetylene Flame
The SIL-FOS BRAZING ALLOY flows over the entire clearance area, making a joint that is stronger than the pipe.
White ring of SIL-FOS appearing all around the pipe at this point is your visible evidence that the joint is made—and made right.

Vibration proof, corrosion resistant, and leakproof! Yes, a Silbraz Joint made with Walseal Flanges, Fittings, or Valves has the inherent stamina to withstand the incessant shaking, the moisture, the changing temperatures, and inevitable knocks of war-time service. Tens of thousands of Walseal products are proving beyond dispute that they truly make a "one-piece pipe line." A Silbraz Joint cannot creep or pull apart under any temperature to which brass or copper pipe can be safely subjected.

Today Walseal is "all out" for war. In the peace to come the use of Silbraz Joints for assembling non-ferrous piping will continue to expand. Walseal Flanges, Fittings, and Valves have the added advantage of being installed easily even in cramped quarters.

You'll find complete information on Walseal products in the new Walworth Catalog 42 on pages 230 to 242, inclusive.

• • •

If you want a copy of this up-to-date catalog of Walworth Valves, Fittings, Pipe, and Pipe Wrenches, write for it on your business letterhead. Address: Walworth Company, Dept. 53, 60 East 42nd St., New York, N. Y.

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WALWORTH VALVES AND FITTINGS 100TH ANNIVERSARY

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Thanks:

I have felt that your company and the personnel somehow or other have a way of getting the truest possible information of any source it is my pleasure to read. . .

C. M. L., Indiana

Between Ourselves

Highlights . . . . and Slants . . . . on Our Industry's Month

Supersedes Code

An ordinance recently adopted by the Los Angeles City Council for the duration of the war exempts from existing provisions of the municipal plumbing code any buildings owned or operated by the United States Government, or constructed by the Government or any of its bureaus, as a necessary part of the conduct of the war.

The ordinance provides that none of the provisions or requirements of any of the sections of the code specified in the new measure shall apply to ". . . any plant, structure, equipment, installation, facility or fixture, which is located upon land owned by the United States or to the construction, installation, alteration, repair, maintenance or operation thereof, provided the operation thereof is stated in writing by the United States to be in aid of the national defense program."

Elimination of duplicate inspection procedures by government and city officials and removal of restrictions that might hamper the prosecution of facilities needed in war, was cited as the reason for enactment of the amendment.

In addition to exempting government construction from the provisions of the plumbing code, United States facilities are likewise exempted from regulation under the building and electrical codes and from provisions applying to heating, ventilation and refrigeration, boilers, boiler pressure vessels, elevators and fire prevention.

• • •

Manpower Setup

Since the "hold the line" order and its later interpretations by the Manpower Commission, many plumbing and heating contractors and others in our industry have queried us regarding the effects of the new "job freeze" policy upon their organizations.

While it is still too early to estimate exactly what the answers will be to some specific questions, the following analysis by a Domestic Engineering Washington representative will be helpful. This information was obtained in personal interviews with War Manpower Commission officials.—Ed.

Washington, D. C., April 27 (Special).—The "hold-the-line" job order recently issued by the War Manpower Commission affects the plumbing and heating contractor only when it is a question of transfer of employees to jobs at higher wages.

Where, for instance, a contractor is supplied with help by a local union on contract and employees transfer from one contractor to another from week to week, these workers are not affected by the non-transfer order unless they move to jobs at higher wages.

Facilities are now being set up at all local U. S. Employment Offices to advise workers and handle special situations. It is probable that WMC will not interfere with established journeymen practices.

In those areas which do not have employment stabilization plans, workers cannot shift from one job to another where higher pay is involved. In areas which have these plans the shift can be made if the employee obtains a certificate of availability from his former employer or by WMC officials. In both instances essential activities must be involved.

Workers who are engaged in plumbing or heating maintenance and repair work and want to transfer to higher paid jobs in construction will have their cases decided on the basis of the essentiality of each job. Where stabilization programs are in effect certificates of availability will be issued. In areas where the programs are not in effect U. S. Employment Offices will handle the cases.

• • •

NAMP Convention

Every phase of war production, price control, and the war and our industry will be investigated at the annual meeting of the National Assn. of Master Plumbers which will be held June 7 to 10 in Chicago, at the Morrison Hotel. National Commander Roane Waring of the American Legion will give a 30 minute address, broadcast to the nation.

Prominent officials of the War Production Board and the Office of Price Administration will be in attendance to discuss latest developments in Government affecting our industry. Representatives of manufacturers and wholesalers will convene with the contracting branch to discuss postwar plans, according to the announcement.

President T. W. Merryman urges

Roane Waring

that every member attend because ". . . at no previous time in the history of the NAMP has the necessity been greater for consideration of the problems facing the industry."

A complete program of entertainment, ranging from a floor show to a feature movie and comedy program, has been arranged by the committee; the social program of the women's auxiliary includes a tea and a luncheon and card party.

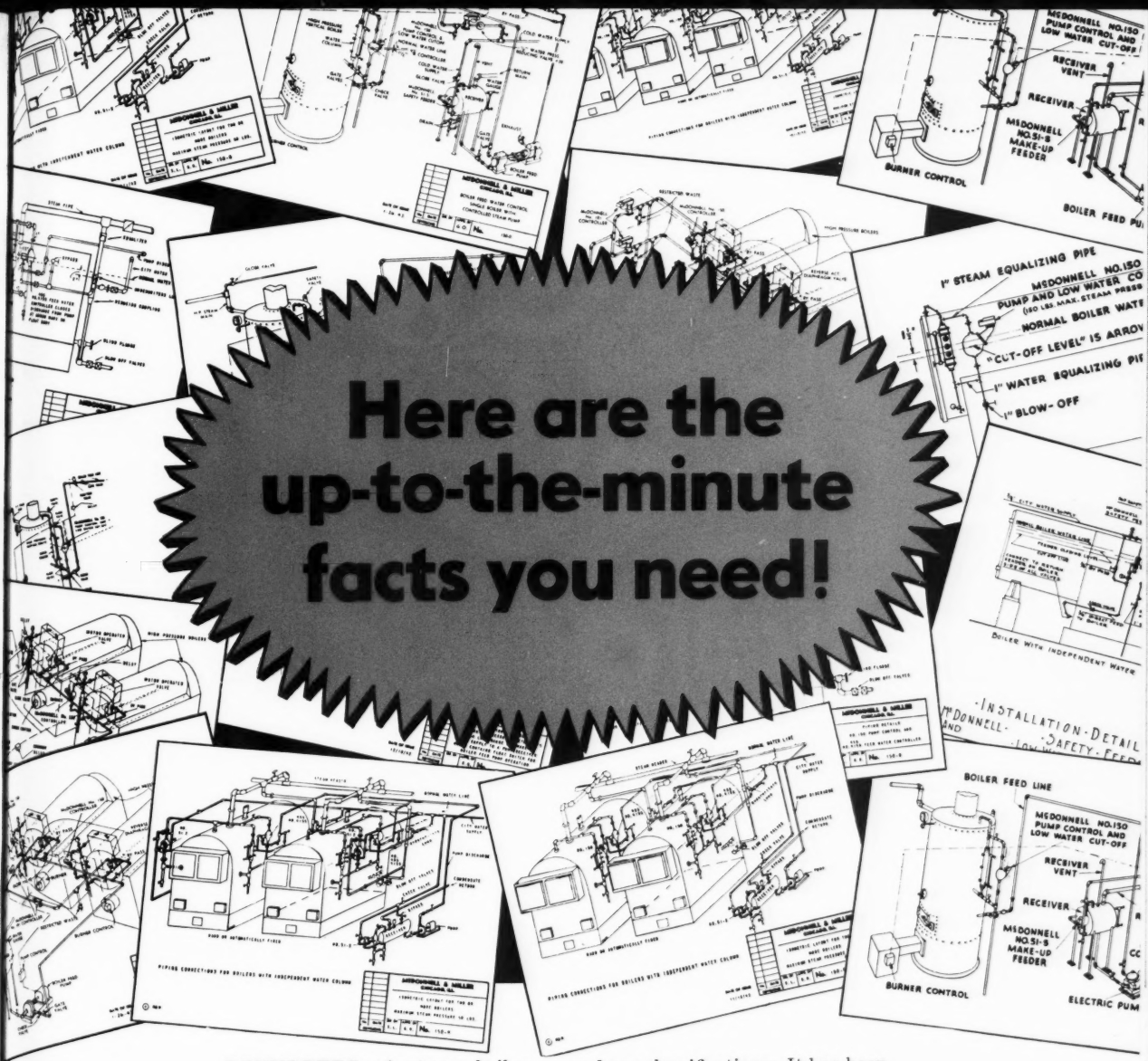
Ed. Note: Pres T. W. Merryman was returned winner in the recent Chicago aldermanic race. Mr. Merryman will represent the 45th ward in the city council.

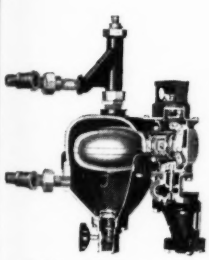
• • •

Postwar Picture

This issue contains digests of four surveys on postwar planning every one of which contains information and viewpoints of value to our industry. Three are described in the postwar planning section of this issue; the fourth follows. It is of interest for its

(Continued on Page 39)





McDONNELL No. 47-2

meets all specifications for boiler water feeder and low water alarm on boilers below 5,000 sq. ft. capacity with steam pressure up to 25 lbs. For low pressure boilers larger than 5,000 sq. ft. capacity use the No. 51-2.

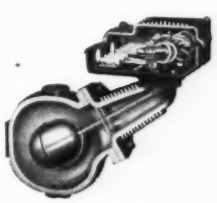
HUNDREDS of steam boilers are doing their part of America's big job—are vital, directly or indirectly, to the armed forces and to every phase of war industry.

Many of these boilers are up against tougher operating conditions than they have ever before encountered. They *must* be kept in service. And therefore the importance of protecting them from low water damage — particularly at a time when replacements are so hard to get—is clearly recognized.

That is why McDonnell Boiler Water Level Controls are still available on proper priorities and end-use classifications. It has been found, however, that today's special needs and specifications present new installation problems that should be fully understood by everyone responsible for boiler safety.

Reproduced above, as well as space limitations permit, are drawings covering piping and wiring to meet practically every boiler water control problem. These drawings—in convenient 8½"x11" size—have now been collected into a kit that you will find particularly useful.

Simply drop us a line and we will send you the entire set of installation and wiring diagrams.



McDONNELL No. 150

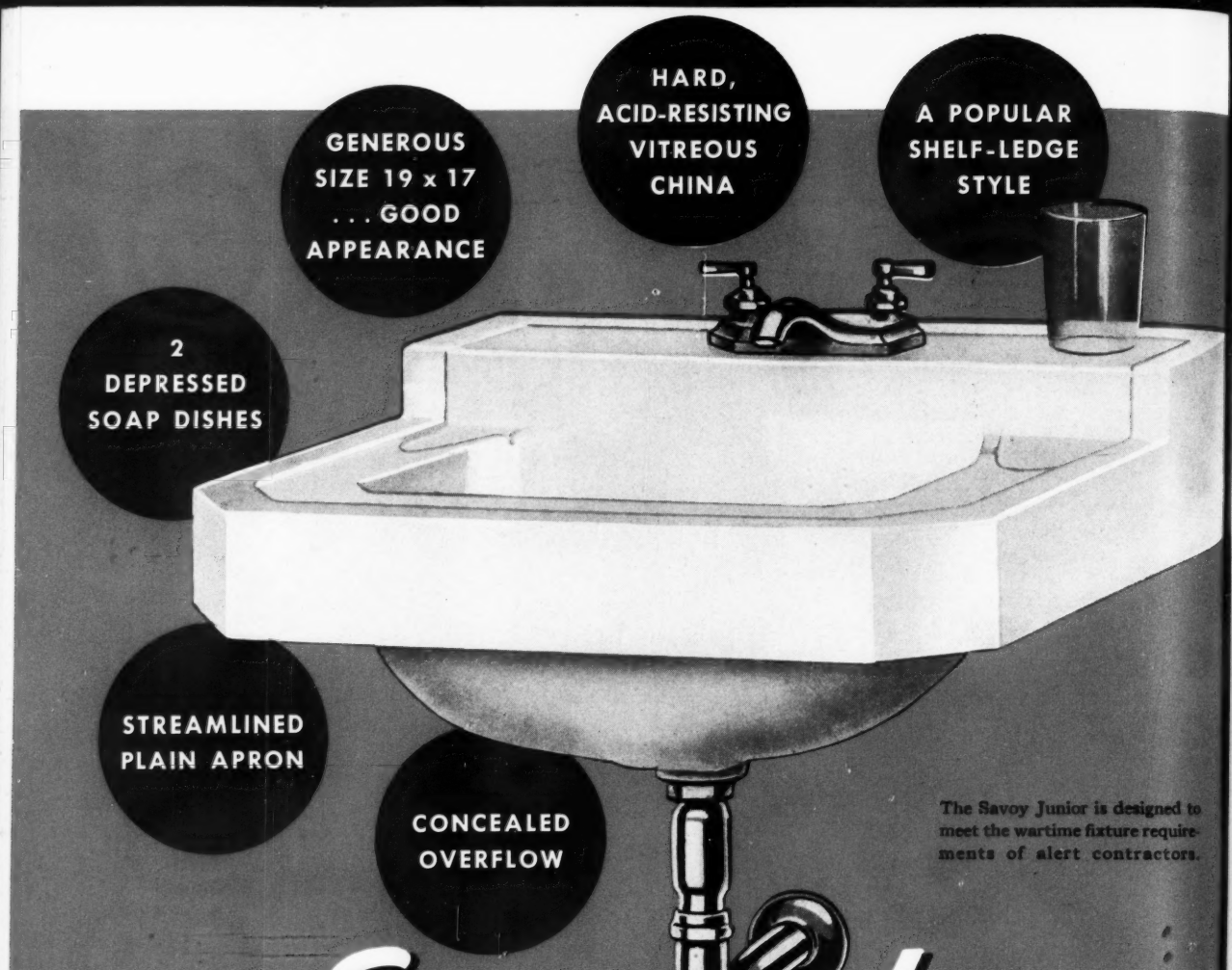
Pump Control, Low Water Alarm and Low Water Cut-off for boilers of any size; maximum steam pressure 150 lbs. This control is used in many of the hook-ups covered by the drawings above.

McDONNELL & MILLER, 1306 Wrigley Bldg., Chicago, Illinois

Doing One Thing Well

SAFETY CONTROLS

McDONNELL *Boiler Water Level* CONTROLS

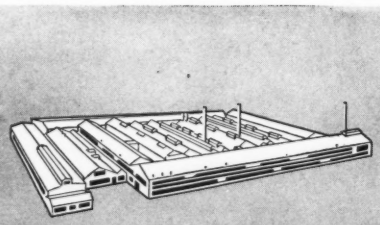

HARD, ACID-RESISTING VITREOUS CHINA
A POPULAR SHELF-LEDGE STYLE
GENEROUS SIZE 19 x 17 . . . GOOD APPEARANCE
2 DEPRESSED SOAP DISHES
STREAMLINED PLAIN APRON
CONCEALED OVERFLOW
The Savoy Junior is designed to meet the wartime fixture requirements of alert contractors.
THE SAVOY JUNIOR
Plate B-3194-G

A "NATURAL" FOR TODAY'S BUILDING

High in quality, low in cost, the Savoy Junior is an all-purpose vitreous china lavatory. It uses a minimum of critical materials and has plenty of style.

It has been widely used for government, industrial and housing installations. It is quickly and easily cleaned, and will give long service.

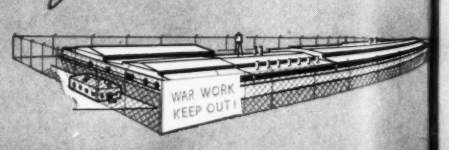
ELJER CO., FORD CITY, PA.



Normally

PLUMBING FIXTURES ARE OUR EXCLUSIVE BUSINESS

. . . 15 acres of it!



Between Ourselves . . .

common-sense viewpoints on future products which will be made available by American industry during the postwar period.—Ed.

New York City, April 16—Evolutionary rather than revolutionary changes in postwar products and services are expected by industrial management to lead to the highest living standards America has ever known, according to a cross-sectional report of postwar plans of industrial companies published today by the National Assn. of Manufacturers.

"To develop new products or improve old ones is as American as Yankee Doodle or the Stars and Stripes," said the NAM in its report, "Peacetime Plans of Industrial Companies."

"Almost every manufacturer is dreaming new products and new improvements, and at odd moments, if not systematically, he is planning how and what to produce tomorrow. That is evident whenever a manufacturer talks or writes about postwar production."

Hundreds of companies have launched peace time planning programs, embracing the study of means of providing full employment, developing new products, new methods, and better distribution, according to the NAM report which is based on responses to a questionnaire, letters and interviews.

Industrial management is skeptical of postwar planners who expect the world to be spectacularly different after the war. Jobs, manufacturers say, must come as they always have from the sale of goods that the public is willing to buy, according to the opinions expressed to NAM.

"Many manufacturers fear that the public has been oversold on the prospects of revolutionary changes in postwar life as a result of plastics, light metals and other new or relatively new materials and new designs.

"An automobile manufacturer recently said that the first postwar car is bound to be the 1942 car. It cannot be anything else. Similar statements have been made by refrigerator manufacturers and others. Time will be required to perfect new models, and the men, machinery and materials for experimentation, testing and perfecting will not be available until after the war.

"For the most part new materials come into use as products now on hand are replaced. This is an evolutionary rather than a revolutionary process. Iron and enameled pots and pans, for instance, remained in vogue for a generation after aluminum and stainless steel utensils were available to all who wished to buy. Nylon for full-fashioned hosiery probably came in faster than any other new material ever did, yet when nylon production was turned to war, more than two-thirds of all full-fashioned hosiery was still made of materials other than nylon.

"Plastics, which have been growing by leaps and bounds for a generation already surround us, and new uses of them are likely to be accepted as commonplace. Synthetic rubber will replace natural rubber and we will scarcely notice the difference.

"The juggling of atoms to make plastics and other synthetic materials will be of far reaching importance in postwar America, but the changes will come gradually, rather than overnight. The tempo of change will be stepped up, but the change toward plastics or other synthetic and light metals has been going on for many decades."

• • •

Fans Released

Washington, D. C.—Householder sizes of centrifugal type air boosters or underfire coal burning fans used in connection with furnaces and now in the hands of dealers have been released for distribution in an amended General Limitation Order L-280.

Specifically the amended order releases for installation in connection with new or existing heating furnaces all new air boosters or fans in inventories of dealers that have a capacity of 2,500 cfm and less with motors of one-quarter hp. and less.

• • •

Wholesale Picture

Washington, D. C., April 26—Plans for the revision of L-63 which will bring the order more into line with present conditions, are contemplated by the Distribution Division of WPB.

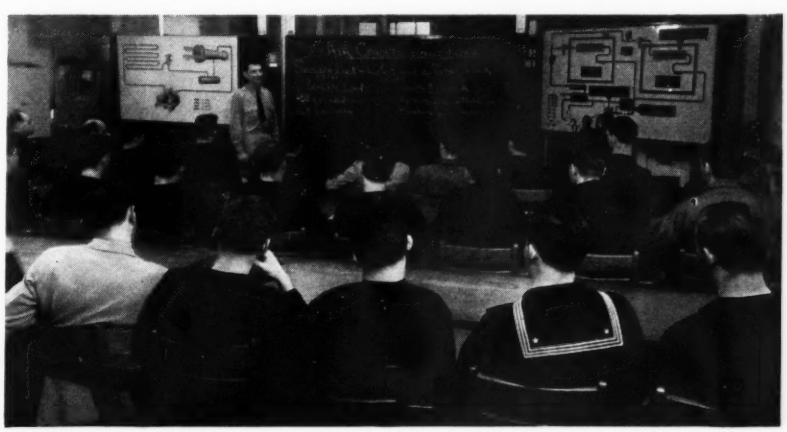
The revision will provide for more equitable distribution of plumbing and heating equipment and relax some of the inventory restrictions of the present order.

Among the changes will be provision for a greater stocking period. Under the order as it now exists suppliers' inventories in the eastern time zone are limited to 60 days, in the western time zones to 90 days. The revision contemplates an inventory program that will allow a turnover of from three to four times a year.

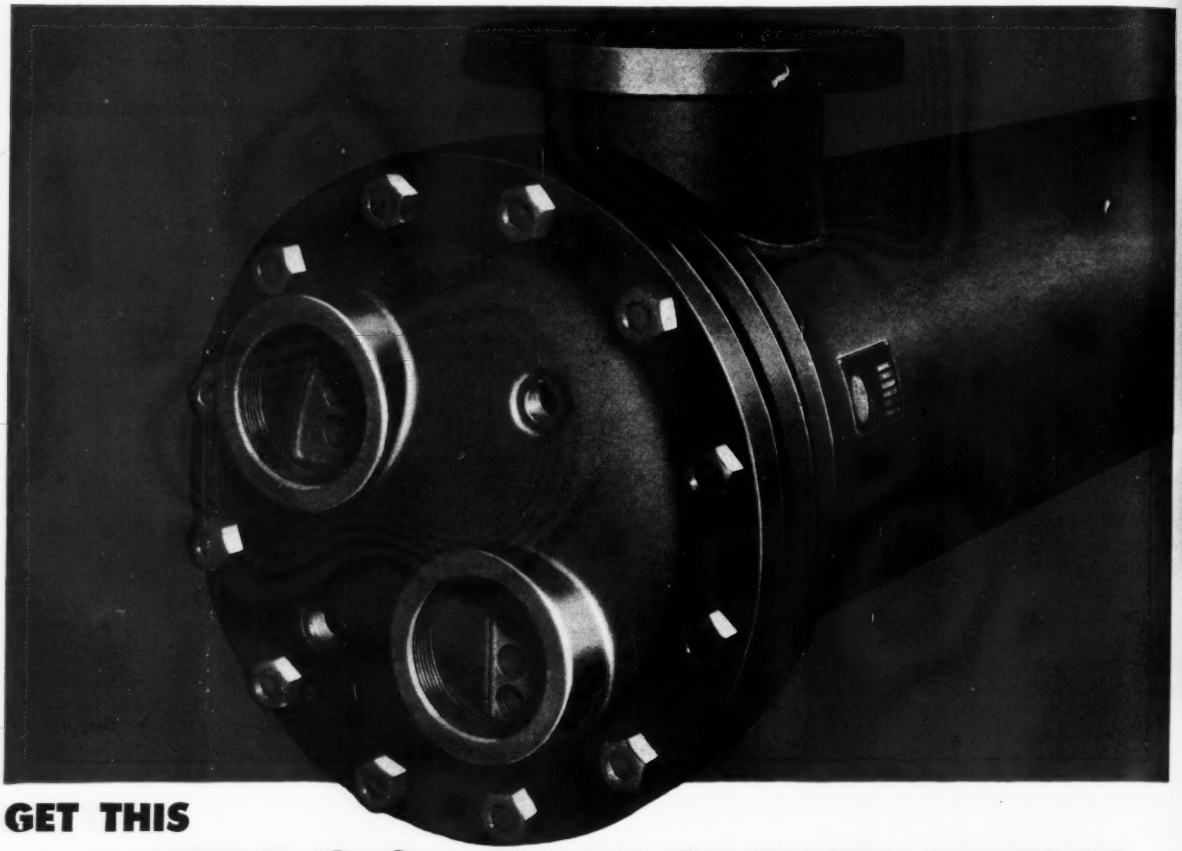
The existing order includes in active inventory many items that the jobber cannot sell because of restrictions imposed by WPB programs. Gas-fired boilers, for instance, come under this category. In reporting inventory the jobber must include these items. The revised order will place most of these items on List A where they will not be counted as active inventory.

Jobbers are not all familiar with the provision where frozen items may be exempted from the inventory count under the present order by special appeal. It is planned to continue this appeal

(Continued on Page 95)



Sailors receiving instruction in refrigeration and air conditioning in a class at York, Pa. These men are being trained to take charge of refrigeration and air conditioning equipment (and there's a lot of it) on America's fighting ships



GET THIS

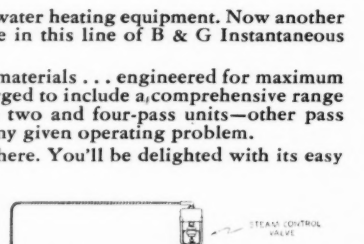
NEW CATALOG OF WATER HEATERS ...WITH NEW SIMPLIFIED SELECTION TABLES

The country over, "B & G" is a buy-word for water heating equipment. Now another addition to a big family of products is made in this line of B & G Instantaneous Water Heaters.

Re-designed to permit use of war-dictated materials . . . engineered for maximum heat transfer within minimum space . . . enlarged to include a comprehensive range of standard sizes! All available regularly in two and four-pass units—other pass arrangements can be manufactured to meet any given operating problem.

Send today for the new catalog illustrated here. You'll be delighted with its easy sizing tables which enable you to select a heater quickly and accurately. Included are a few simple rules which show you how to avoid common errors when designing service water systems . . . and how to compensate for varying conditions of service. Capacities are listed for all usual inlet and outlet temperatures.

B & G Instantaneous Water Heaters are for *external* application to any size or make of steam boiler.



B&G INSTANTANEOUS WATER HEATERS

BELL & GOSSETT CO., MORTON GROVE, ILLINOIS

Canadian Licensee: S. A. Armstrong Ltd. 115 Dupont St., Toronto

Look ahead with the Baxters

In their post-war expectations you'll find inspiring opportunities

There's a great day coming for the Baxters—and for you! They, and millions like them, are working earnestly for victory, and planning with great expectations for the peacetime future. Unknown to them, their anticipation of new comforts, new conveniences and a higher standard of living is stimulating invention and unfolding rich opportunities for your business.

It will be your privilege to bring the Baxters more freedom for individual betterment by providing devices to make weather as they want it, improved heating systems, and kitchen and bathroom conveniences that will far exceed anything they have known in the past. Already, the type and utility of numerous conveniences is appearing. The Baxters are counting on you for the installation and service of these new conveniences. And the wants of hundreds like them will enlarge the size and scope of your business beyond your fondest expectations.

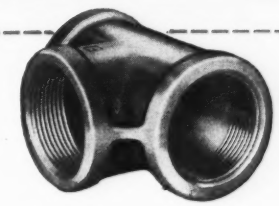
To meet this parade of prospects, to accept these inspiring opportunities, requires foresight and venturesome planning. Now is the time to get ready—and keep your business organized and ready-to-serve. Grabler is alert, planning to fulfill your future requirements for "Square Gee" products—products you'll need to meet the vast opportunities of a new era. Grabler looks ahead with you.

THE GRABLER MANUFACTURING COMPANY
6565 BROADWAY **CLEVELAND, OHIO**

TRADE MARK REG.

GRABLER

SQUARE "GEE" PIPE FITTINGS



The Man With The Pipe Wrench avoids time-wasting grief with Grabler Square "Gee" Fittings.

THE SQUARE "GEE" LINE INCLUDES:
Malleable fittings • Unions • Rail fittings • Cast iron steam and drainage fittings • Patented fittings • Brass fittings and unions • Steel and brass nipples • Hangers • Floor and ceiling plates • Copper tube solder type fittings

Warehouses: NEW YORK • CHICAGO • ATLANTA • PHILADELPHIA • LOS ANGELES • SAN FRANCISCO • DENVER • DALLAS • ST. LOUIS • PITTSBURGH

"Throw Your Scrap into the Fight!"

"Toledo" No. 1A Ratchet Die Stock
Threads 1 to 2 inch Pipe

"TOLEDO" 1″ TO 2″ STOCKS & DIES

For threading 1 to 2 inch pipe you will find no better tools for the purpose than "TOLEDO'S". Several models from which to choose. Either self-contained or separate dies for each size as desired.

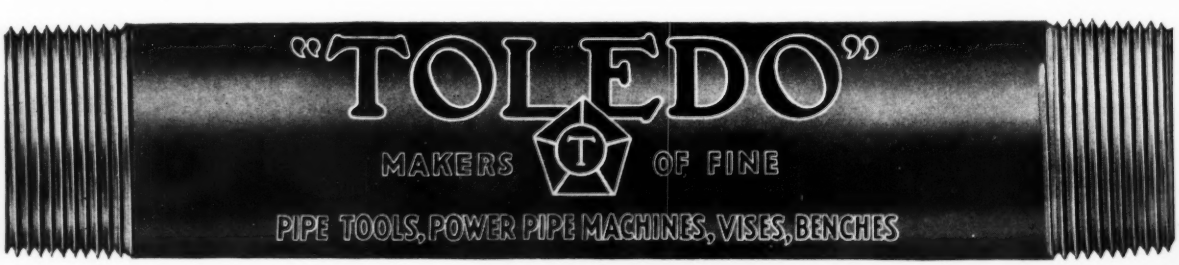
Time proven and easy operating. Sold by leading supply houses.

When in need of stocks and dies, pipe cutters, pipe vises, pipe reamers or power pipe machines specify "TOLEDO".

"Toledo" No. 1 Plain Die Stock
Threads 1 to 2 inch Pipe

THE TOLEDO PIPE THREADING MACHINE CO.

TOLEDO, OHIO **NEW YORK OFFICE, No. 2 RECTOR STREET**



Our Industry

Pots, Pans and Plumbing; Coal, Coal Cars and Controls . . .

THERE'S a lot of talk these days about "civilian supply," a phrase meaning merely "things for people"—objects and products which will enable the home front to continue living and working. Since plumbing and heating do this, it is obvious that "civilian supply" means plumbing and heating and that our industry has a stake in the matter.

Here's a thumbnail description of a civilian supply problem: 1. Prewar cooking utensils are wearing out. 2. Cooking utensils are necessary for the preparation of food. 3. People must have food in order to continue living and working for the war effort. . .

The answer was provided by WPB recently when Mr. Nelson indicated that production of pots and pans would be authorized.

A few months ago—when all stress had to be placed upon direct war production—it might have been considered unpatriotic to suggest that more pots and pans be made. But rapidly do events progress, and it is now obvious that a certain number of pots and pans is necessary to national well-being, upon which the total war effort depends.

Further, much of the urgency in production of such war items as tanks, guns and ammunition has passed. The table in last month's editorial revealed how quickly this nation is approaching production goals—so quickly, in fact, that saturation points are imminent or foreseeable for most direct war items except ships and airplanes.

Not that free reign can be given to any civilian production but the most essential. Many civilian demands can be deferred indefinitely; others—including plumbing and heating—are pressing.

How are we to determine which is which?. . .for example, choose between pots and pans on the one hand and plumbing and heating on the other (such choices are necessary, because of still-limited raw materials). Well, to start with, we could answer three simple questions:

(1) **Is the product necessary to life or health?**. . . The answer to this one is easy insofar as plumbing and heating are concerned. Water is one of the essentials, and the vital role of heating is much better understood now than before fuel rationing.

(2) **Is the product necessary to war production?** . . .Equally easy, when we look at the specifications for war plants. Just as essential, too, in homes.

(3) **Can the demand safely be deferred?**. . .Answering this one with extreme seriousness, the immediate possibility of a serious water-borne epidemic—resulting from faulty plumbing—cannot safely be shrugged off. A lot of dangerous patching up has had to be done.

Progressing this far, it is obvious that plumbing and heating are deeply concerned in civilian supply. But there are two additional questions which, when asked, illustrate the balancing procedure which WPB logically must follow when relaxing restrictions against the manufacture of civilian products. These questions are:

(4) **Does the product eliminate waste of materials or manpower and thus help the total war effort?**

(5) **Does the manufacture of the product require less material and manpower than other products designed to accomplish the same, or a similar objective?**

The five page feature beginning on the next page answers these two questions with respect to just one phase of plumbing and heating, namely, heating plant controls and regulators. This feature is of utmost significance to heating and plumbing contractors at this time, not only because it illustrates the balancing procedure on civilian supply, but also because it presents fully the actual case for heating controls—an item needed by contractors in order to make their war-important fuel conservation work fully effective. The conclusion of the feature is especially significant, because it indicates that our industry may expect to sell and install more controls and allied products than last year.

The Situation on Coal

ON May 3, the Department of Interior issued estimates which indicate that the essential demands for coal this year will be much greater than last.

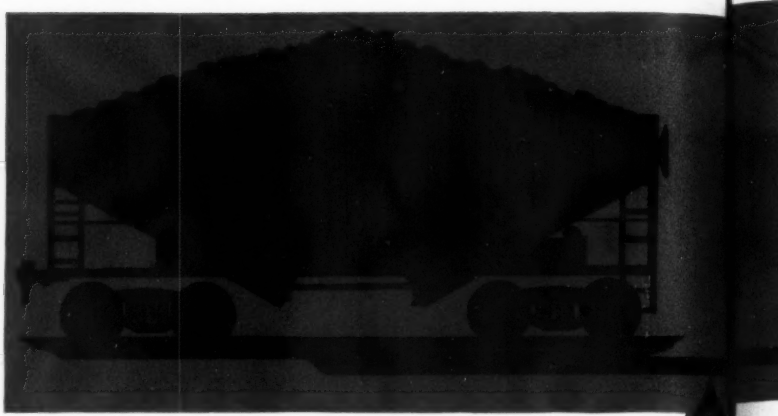
The railroads will require 10 per cent more coal to haul this year's extra load. Steam electric plants will need an extra ten million tons of soft coal, including substantial tonnage which may be needed for further conversions from oil. Manufacturers of iron and steel say they'll have to add twelve million tons to their 1942 consumption to carry out the jobs assigned to them for 1943. Retail sales are expected to jump three million tons and users in other classes are expected to burn at least ten million tons more in 1943 than they consumed in 1942.

As this editorial goes to press, coal production is still below full capacity. It appears probable that coal available this year will have to do more work than the same tonnage ever did before. For one of the answers, see next page. › › › › › › › › › › › ›

Pattern for Civilian Supply

CONTROLS - Another W

Shortage of all fuel foreseen this year, giving our industry wartime opportunity. Work of heating and plumbing contractors, engineers, federal departments and manufacturers can relieve difficult national heating situation and ease the strain on transportation, mining machinery, manpower. To illustrate the possibilities, this article shows fuel saved by controls, indicates how less quantity of metal for controls can save larger amounts which otherwise would be needed for extracting and transportation equipment, with consequent aid to war program . . . Read in connection with editorial on civilian supply, preceding page



Background Facts on Coal Cars

Fact No. 1

Anything which combats waste aids the national effort in total war.

Fact No. 2

Because of factors of manpower, mining machinery and transportation, no fuel will be too plentiful, at points of consumption, this year.

Fact No. 3

The railroads are doing an outstanding job of carrying fuels with limited existing equipment.

Fact No. 4

On January 1, railroads had 17,946 coal cars on order. They have requested 40,500 more, but they also need other rolling stock and other metal equipment. If metals can be diverted from making coal cars to other essential railroad uses, a genuine service will be done in the war effort.

Fact No. 5

The manufacture of an average railroad coal takes

40,000 lbs of steel

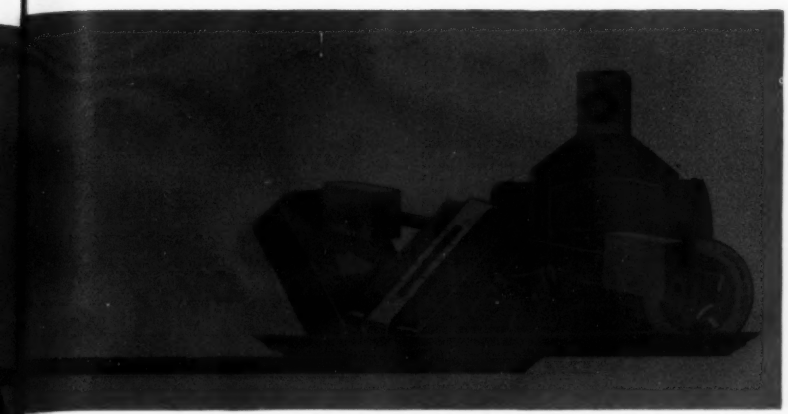
The manufacture of an average railroad coal takes

240 lbs of copper, etc.

Fact No. 6

Coal cars represent only one component in the process of extracting and delivering coal to the consumer. The coal car is selected for this example (instead of mining machinery, manpower, etc.) merely because it is a good symbol and because the nation's need for rolling stock is generally understood. No controversy is implied between the railroad industry and any other industry.

Wartime Sales Necessity



Background Facts on Heating Plant Controls

The average of the barometric draft controls made and sold by Manufacturer A requires 3 lb of steel and a negligible amount of copper and brass (0.02 lb per control). The weight of metal in a railroad coal car would make, for

Manufacturer A, 13,324 Controls

A damper regulator (steam) made by Manufacturer B contains 2⅞ lb of steel and ⅜ lb of copper. The weight of metal in a railroad coal car would make, for

Manufacturer B, 12,997 Regulators

The damper control package unit of Manufacturer C contains 8.8 lb of steel and 1.04 lb of copper and other critical materials. The weight of metal in a railroad coal car would make, for

Manufacturer C, 4089 Units

A central control system for large buildings, built by Manufacturer D, contains 1,257 lb of cast iron, 671 lb of steel, 136 lb of copper and brass and 5 lb of other critical materials. The weight of metal in a railroad coal car would make, for .

Manufacturer D, 20 Systems

The outside control made by Manufacturer E contains 7½ lb of steel and 5 oz of copper. The weight of metal in a railroad coal car could make, for

Manufacturer E, 5159 Controls

THIS begins a special section in which heating plant controls and regulators are fitted into the general picture of fuel conservation and, in turn, into the more general problem of civilian supply.

This discussion will supply a vast amount of information on the fuel conservation value of controls—information which heating and plumbing contractors can pass along to their customers as more and more controls are made available for sale. The role of insulation, cleaning and adjusting have already been described in these columns.

A reasonable supply of heating plant controls, regulators and other fuel saving devices would give heating contractors the means to carry on a complete conservation service which would go far to relieve the dangerous national fuel situation and, at the same time, result in important savings in material and manpower.

If there is any issue in this discussion, that issue is "fuel conservation vs. waste." For simplicity of illustration, one item in the whole process of fuel extraction and distribution is considered in relation to heating plant controls and regulators. Dissimilar as railroad coal cars and heating controls seem to be, they are very closely related today. It is obvious that they both bring heating comfort to human beings—the one by supplying fuel where needed, and the other by eliminating some of the need for fuels. The present supply of both is limited, and the manufacture of either requires critical materials.

If coal is to be moved in the quantities required according to present estimates new coal cars must be built now, especially to take the place of those wearing out. On January 1, railroads had 17,946 coal cars on order. They have requested 40,500 more.

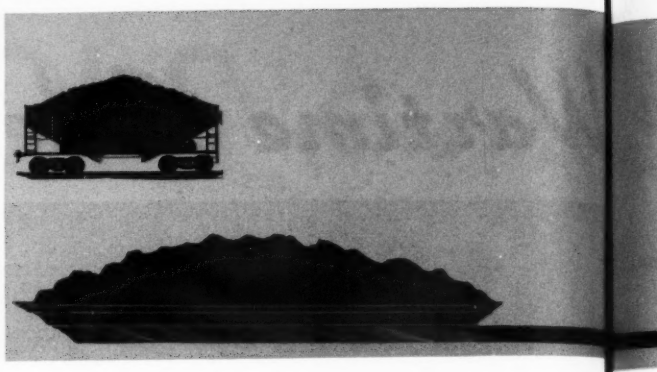
If the manufacture of controls is encouraged, the decision will mean that heating and plumbing contractors will have available a complete fuel conservation service to offer building owners and operators and thus assist the war effort in a larger way. Secondarily, heating and plumbing contractors will have another essential product to sell.

It is generally understood that there will not be enough fuel oil this winter for all oil-fired plants in all areas. On the solid fuel side, there are problems of mining machinery and manpower and long distance and local transportation, which will make it difficult to get all the coal wanted, when wanted, at points of consumption.

Further, and finally, even if extra effort could provide all the fuel needed, where and when needed, this extra effort would not be justified if a big

**The first opportunity was offered by commercial, industrial and multi-family stokers. WPB first restricted the manufacture of these stokers; then—when the oil situation became acute—encouraged their manufacture. In this instance, the metal in stokers was balanced against fuel oil to be saved.*

How Many Carloads Could Controls Save?



Coal Delivered by Railroad Coal Cars

One coal car delivers approximately **1,200 tons** of coal annually (liberal estimate; the railways have been able to obtain much more intensive use of equipment than in pre-war years)

proportion of the fuel were to be wasted. Waste has no place in total war. Heating plant regulators and controls combat waste.

If the manufacture of controls is encouraged, the decision could mean that the railroads might receive steel for important needs other than coal cars . . . because of the fact that the amount of steel used for controls would be vastly less than that used in the manufacture of coal cars. Railroad transportation is vital to the war effort, and the railroads have been skimping without steel for repairs and new equipment during many months. Any action which would make unnecessary the manufacture of some new equipment, and at the same time make steel available for other railroad equipment, would seem to be worthwhile.

Finally, railroad coal cars are often used to carry minerals and materials other than coal. Coal saving makes possible such diversion of facilities and thus aids the war effort in yet another way.

The current situation on controls must be viewed in perspective with its background. Last year the fuel conservation problem was conceived mainly in terms of oil and, because of the tight metal situation, materials were not generously allocated for production of heating saving devices. Nevertheless, the Plumbing and Heating Division of WPB, foreseeing possible strains in coal supply and distribution, agreed that heating controls were important. Allocations under PD-25A were given, but in some cases the authorizations were received too late to be fully effective due to heavier demands for war equipment.

As a new drive impends for conversion of heating plants from oil to coal, the need for utmost conservation of coal and oil in plants which cannot be converted becomes more and more obvious. The armed forces are currently stressing this fact. OPA is emphasizing it in its communications to ration boards.

The caption material under the illustration (p. 44) shows that under conditions of wasteful operation of coal burning plants, sufficient railroad coal cars may not now be available to take care of all contingencies. One answer could be to build more coal cars and to take whatever steps are necessary to get additional production from the mines. A second answer would be to keep new car construction to a minimum and to take advantage of all possible fuel conservation means. This latter course would result in a net gain in materials which would then be available to the direct war effort, to the railroads, or to other essential civilian supplies.

In all events, demand for controls and other heating equipment will greatly exceed last year. It is suggested that contractors take account of this development, and plan to include controls in the fuel conservation service they offer their customers this summer and fall.

Savings by Barometric Draft Controls

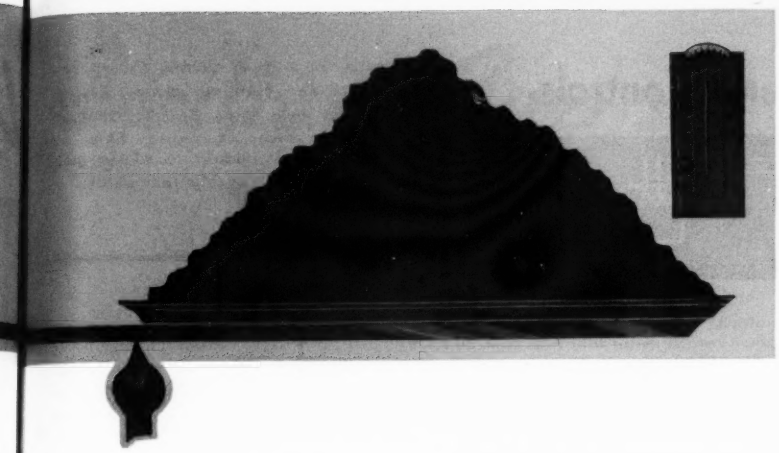
FOLLOWING is a summary of fuels saved by the barometric draft controls of one manufacturer, together with the weight of critical metal in each:

			Coal Saved Per Unit Per Season
6 in.	steel—	1.5 lbs. . .	½ ton
7-8-9 in. . . .	steel—	5.5 lbs. . .	1 ton
10 in.	steel—	7.0 lbs. . .	1 ton
12 in.	steel—	9.0 lbs. . .	2 tons
15 in.	steel—	23.0 lbs. . .	4 tons
18 in.	steel—	38.0 lbs. . .	8 tons
20 in.	steel—	44.0 lbs. . .	10 tons
24 in.	steel—	63.0 lbs. . .	15 tons
Commercial . . .	steel—	300.0 lbs. . .	20 tons

This manufacturer estimates that he could manufacture 300,000 such units in six months. The average of these controls would use 3½ lbs of metal and save 1200 lbs of coal per season.

The total weight of metal used in the 300,000 units would approximate 500 tons; the 300,000 controls would save 180,000 tons of coal, or it would duplicate the work of 150 railroad coal cars. Only twenty-five coal cars would be made from the metal used in these controls.

Considering the problem from another angle, 500 tons of metal, if used in these controls, would make unnecessary the construction or diversion from other important uses of 150 coal cars, and 2,518 tons of metal (difference between weight of 300,000 controls and 150 coal cars) would be saved for other essential purposes.



Coal Saved by Heating Controls and Regulators

The weight of metal in one coal car, utilized in the barometric draft controls of Manufacturer

A, would save **7,994 tons** of coal annually

The weight of metal in one coal car, utilized in the damper regulators of Manufacturer

B, would save **7,998 tons** of coal annually

The weight of metal in one coal car, utilized in the damper control units of Manufacturer

C, would save **4,089 tons** of coal annually

The weight of metal in one coal car, utilized in typical central control systems of Manufacturer

D, would save **2,930 tons** of coal annually

Installed in connection with systems everaging 156 tons annually, the weight of metal in one coal car, utilized in outside controls of Manufacturer

E, would save **140,840 tons** of coal annually

Editor's Note: The estimates of fuel savings shown above have been received from the manufacturers of the equipment. When the estimates of savings have appeared high, they have been scaled down. Also, it is emphasized that the estimate for control E is for large installations. On the other hand, control D contains considerable weight of non-critical cast iron, which must for consistency be compared with steel in coal cars. Thus the estimate for control D would be much more favorable if the relatively non-critical cast iron were not included.

Savings of Boilers Control System

THE boiler control system for a heating boiler consuming 500 tons of coal annually, as made by one manufacturer, is composed of 30 lb of gray iron castings; 14 lbs of light gage steel (seconds, trimmings, etc) and 1½ lb of copper.

(Continued to Column 3)

The metal requirements for 1,000 units would be 15 tons of gray iron castings; 7 tons of light gage steel and 1,500 lb of copper. The manufacturer points out that "there are savings of 10 per cent to 25 per cent—even 30 per cent—by the use of such equipment. Assuming an average saving of 15 per cent, which is a very conservative basis, we find the following with respect to systems consuming 500 tons per year.

"A saving of 15 per cent by use of the boiler control results in total savings of 75,000 tons for 1,000 installations; or—1,500 carloads of coal at 50 tons each. The coal otherwise wasted ties up 62 railroad coal cars at 24 round trips per year."

The manufacturer points out that these 1,000 controls likewise effect a saving of 1,240 tons of steel (at 20 tons per car), and 14,880 lbs of copper base alloys (at 240 lb per car), plus 15,000 man-days to mine the coal which otherwise would be wasted, plus the additional material and equipment used to mine the coal, plus the material, equipment and manupower used in transportation and local delivery.

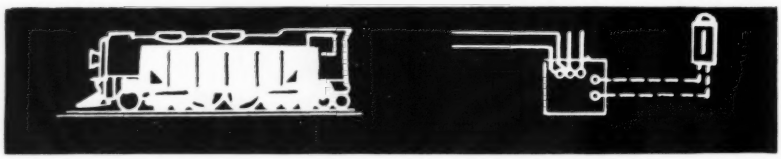
Savings by Outside Type Controls

REMARKABLE records in fuel conservation, through the use of "outside" type controls, are reported by Harry E. Popel, operator of numerous buildings in Pittsburgh.

In one building under his management, Mr. Popel reports that the coal job under discussion showed a 50 per cent reduction in consumption the first week after installation of the control. This was a mild weather period and the comparison was made against the previous week of comparable mild weather.

"Savings have proved to be greatest in mild weather. The coal consumed in this fourteen-family building in the 1941-42 heating season was 53 tons, whereas in the 1942-43 heating season the total consumption will be only 40

Operation -- Cars and Controls



Railroad coal cars are, of course, only one component in the entire process of producing coal and making it available to the consumer. Other elements besides coal cars which are concerned in the process include mining machinery; manpower in mining the coal; manpower for train crews; fuel for locomotives; manpower and trucks for local delivery . . . plus manpower consumed in firing wasted coal

In contrast, heating plant controls and regulators require little transportation and manpower. The manpower consumed in manufacturing and delivering the controls, for example, is less than the manpower they save in the operation of heating plants

tons, a saving of 25 per cent in a colder year."

Extraordinary fuel savings were also obtained in Palm Garden Village, the multi-family dwelling shown in the picture. The outside control in this instance is responsible for the exceptional showing in savings.

Heating engineers, during the winter of 1941, made studies of heating systems in all of the buildings under Mr.

(Continued on Page 86)

Savings by Damper Regulator Units

THE damper regulator package unit made by one manufacturer requires 8.8 lbs of steel and 1.04 lbs of other critical material. The fuel savings derived from these controls are best described in the manufacturer's own words:

"If it requires 40,240 lbs of metal to build one coal car, this amount of metal would build 4,089 damper regulator package units and would save the cost of mining and transportation of 4,089 tons of coal in one season. This is equivalent to 82 cars of coal which must be mined and transported to distributors and finally trucked to the consumer.

"Based on one coal car delivering 1,200 tons of coal per year, it would require 3⅛ coal cars to transport the coal saved. The metal used to build 3⅛ coal cars would produce 13,631 damper regulator sets and would save the man hours required to produce the coal, save its transportation and ultimate delivery cost and save 60 per cent of the labor as well as other scarce materials required to build these coal cars."

This manufacturer also stresses the manpower savings made. He points out, for example, that the manpower used in making the controls is much less than would be consumed in mining, building mining machinery, building transportation facilities, and transporting and delivering coal which—without controls—would be wasted.

"If this company were granted the materials, we could and should build 30,000 damper regulators, 36,000 thermostats and 27,000 limit controls before December 31, 1943.

"While during the past year we have put forth no sales effort, we are holding on our books, as of April 10, 11,900 unfilled orders for damper units, 12,300 thermostats and 9,800 limit controls. Some of these orders are four to five months old, as orders bearing priorities are shipped in advance of unrated orders."

Savings by Central Control Systems

ONE manufacturer has tabulated the fuel savings in literally hundreds of buildings in which its central controlled systems have been installed.

The tabulation reveals that seven typical installations saved a total of $10,497.68 in fuel bills annually. Converted to coal, at $5.00 per ton, this would amount to 2,100 tons of coal saved. It would require the annual carrying capacity of two coal cars to approximate this saving.

As against the 80,480 lbs of metal in the two coal cars, these seven jobs required 18,985 lbs. Of this metal, 10,924 lbs were relatively non-critical cast iron; 6818 lbs were steel; 1229 lbs were copper and brass and 14 lbs were mercury.

The manufacturer states: "If restrictions to the sale of central control systems were removed, we would probably be able to manufacture and sell 300 systems in a year's time. Assuming $1,000 as the average annual saving, this would mean approximately $300,000 yearly. (In terms of coal, at $5.00 per ton, this would amount to 60,000 tons, or the annual transporting ability of 50 coal cars.)

Other Products

THIS feature by no means exhausts the list of products of our industry whose installation results in substantial savings in fuels and metals.

Circulators and air valves—to name only two—result in very substantial fuel savings.

Boiler water level controls save fuel in some degree and, by preventing boiler damage, save metal. Relief valves perform similar safety functions.

Products such as these will be described in forthcoming installments in this editorial program,

OPA Urges Controls for Both Oil and Coal in Bulletin to Ration Boards

To produce the necessary cut in fuel oil consumption, and to save every possible shovelful of coal, building temperatures must be restricted.

Residences and other small buildings that have an oil burner or stoker, almost without exception have a thermostat that can be adjusted to effect this necessary saving. Few larger buildings, however—apartments, stores, office buildings, etc.—have thermostatic controls of any kind. *It is in these larger buildings that the greatest saving of fuel used for space heating is possible.*

The War Production Board has made materials available for the manufacture of "Outside" type thermostatic controls which are particularly suited for regulating the heating of such multiple-occupancy buildings. These controls are discussed on the following pages. No priority is required for their purchase.

Every effort should be made to promote the use of such controls—to save every bit of fuel possible in the interest of America's War Effort.

OFFICE OF PRICE ADMINISTRATION

Above and on facing page are pictured two portions of a bulletin which OPA has sent to all fuel rationing boards for them to use in advising building operators. Significantly, the need for saving both coal and oil is stressed. The information was furnished OPA by Marsh-Tritrol Co., Chicago, which has distributed many thousands of the bulletins to the heating industry

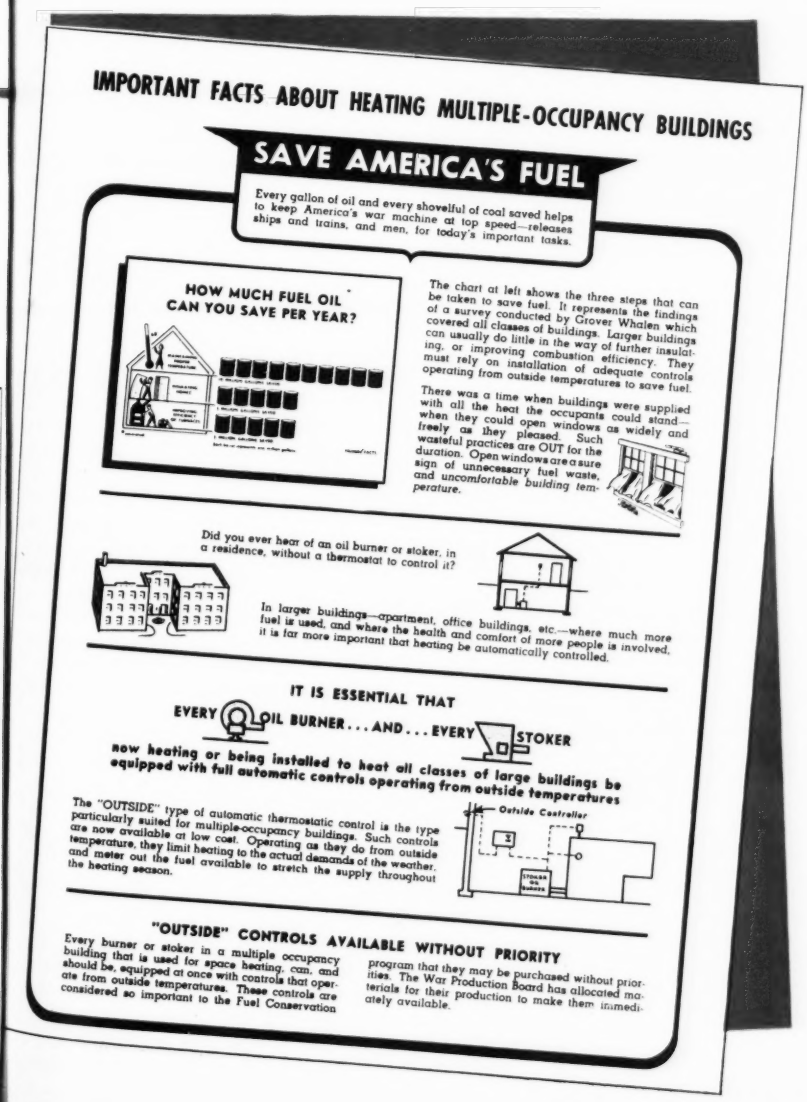
Civilian Supply Means Plumbing and Heating

Civilian supply means plumbing and heating, and civilian supply is looking up! Read these items in connection with the editorial in this issue and with the news of the new civilian supply setup on next page

Action Expected on Tank Heaters

THE manufacture of tank heaters will be permitted under a new order shortly to be issued by WPB. An effort is being made to put this order through as quickly as procedure will permit because it is realized by the Government that the normal production season for this product has already arrived. However, it is likely that the order will not be issued until late May.

Many industry leaders have hoped that this order will encourage or permit the use of tank heaters as auxiliaries in oil-fired systems, thus helping oil burner owners to keep warm on limited fuel oil rations. Installations of this type were described in March DOMESTIC ENGINEERING.



IMPORTANT FACTS ABOUT HEATING MULTIPLE-OCCUPANCY BUILDINGS

SAVE AMERICA'S FUEL

Every gallon of oil and every shovelful of coal saved helps to keep America's war machine at top speed—releases ships and trains, and men, for today's important tasks.

HOW MUCH FUEL OIL CAN YOU SAVE PER YEAR?

The chart at left shows the three steps that can be taken to save fuel. It represents the findings of a survey conducted by Grover Whalen which covered all classes of buildings. Larger buildings can usually do little in the way of further insulating, or improving combustion efficiency. They must rely on installation of adequate controls operating from outside temperatures to save fuel.

There was a time when buildings were supplied with all the heat the occupants could stand—when they could open windows as widely and freely as they pleased. Such wasteful practices are OUT for the duration. Open windows are a sure sign of unnecessary fuel waste, and uncomfortable building temperature.

Did you ever hear of an oil burner or stoker, in a residence, without a thermostat to control it?

In larger buildings—apartment, office buildings, etc.—where much more fuel is used, and where the health and comfort of more people is involved, it is far more important that heating be automatically controlled.

IT IS ESSENTIAL THAT EVERY OIL BURNER . . . AND . . . EVERY STOKER now heating or being installed to heat all classes of large buildings be equipped with full automatic controls operating from outside temperatures

The "OUTSIDE" type of automatic thermostatic control is the type particularly suited for multiple-occupancy buildings. Such controls are now available at low cost. Operating as they do from outside temperature, they limit heating to the actual demands of the weather, and meter out the fuel available to stretch the supply throughout the heating season.

Outside Controller

"OUTSIDE" CONTROLS AVAILABLE WITHOUT PRIORITY

Every burner or stoker in a multiple occupancy building that is used for space heating, can, and should be, equipped at once with controls that operate from outside temperatures. These controls are considered so important to the Fuel Conservation program that they may be purchased without priorities. The War Production Board has allocated materials for their production to make them immediately available.

Range Boilers Foreseen in June

An order is also contemplated which will allow the limited manufacture of range boilers. This order may be expected early in June under normal procedure. Production of these has been seriously hampered by a very restrictive simplification order.

P-84 is Delayed

The P-84 order is still under revision but has run into difficulties and now is scheduled for issuance about May 15.

It will definitely set up a better than A-10 rating for the procurement of repair and replacement equipment by contractors.

PD-IX Setup

In connection with PD-1X, it is stated flatly by Joseph T. Wilber, director of the Plumbing and Heating Division, that PD-1X applications are being processed under the direct supervision of the Plumbing and Heating Division and that delegation of this authority has not passed to the Distribution Division, as interpreted in some quarters. Mr. Wilber has assigned five members of the Plumbing and Heating Division staff to the Distribution Division for the processing of the PD-1X applications. It is pointed out by Mr. Wilber that the Plumbing and Heating Industry Advisory Committee meets with the Plumbing and Heating Division on all questions affecting the industry.

(Continued on Page 70)

New Setup for Civilian Supply

WASHINGTON, D. C., April 26.—The plumbing and heating industry is directly affected by recent moves in Washington to give greater emphasis to civilian requirements in relation to the war program.

Congressional leaders want to set up a separate agency apart from WPB to administer the civilian program. The Maloney bill has been introduced in Congress for the establishment of such an agency.

The preamble of the Maloney bill (quoted in last month's DOMESTIC ENGINEERING) admirably stated the principal that civilian supply must proceed hand in hand with military supply. There is now no longer any disagreement with this principle. But the Maloney bill has a provision which, closely interpreted, might give the Government the right to manufacture and sell civilian supplies of all kinds, including plumbing and heating.

Agree on Principle

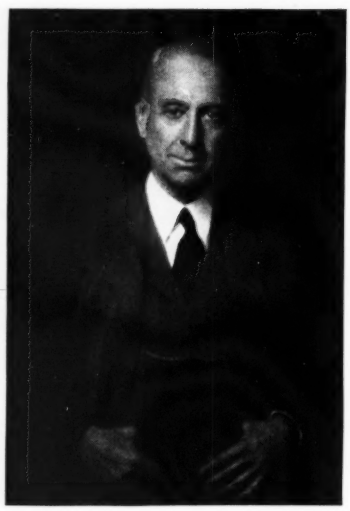
This portion of the bill follows: (The Civilian Supply Administration has power to) "direct the Smaller War Plants Corporation, the Commodity Credit Corporation, or the Reconstruction Finance Corporation and its subsidiary corporations to buy and sell civilian goods or enter into contracts for the manufacture of civilian goods."

Donald Nelson, in opposition, insists that civilian production must be controlled by the same agency that directs war production.

The overall result of this controversy is that the agency which administers the civilian program will be strengthened, either by legislation or by Donald Nelson in WPB.

Whiteside Appointment

Mr. Nelson recently replaced the Office of Civilian Supply with the Division of Civilian Requirements and appointed Walker Whiteside, of Dun & Bradstreet, as director of this new WPB agency. This was the first move in the program to improve the civilian economy. At the same time Nelson said that he hoped Joseph L. Weiner, director of the Office of Civilian Supply, would remain with the new Division of Civilian Requirements. Mr. Weiner is known to be anxious to stay as deputy director.



Walker Whiteside

The appointment of Mr. Whiteside and the announcement of an expanded civilian requirements program in WPB did not halt the move on Capitol Hill for a separate agency. The Maloney bill is still on the active list.

Strengthen Board

When Congress showed no inclination to be satisfied with the Whiteside appointment and the Civilian Requirements Division, Mr. Nelson made another move. He announced the appointment to the War Production Board of Harold Ickes, petroleum administrator; Joseph Eastman, director of defense transportation; and Paul McNutt, war manpower chairman. This is seen as a move to strengthen the WPB civilian program since the activities of these three administrators cut across the civilian economy.

Against this political background, Nelson revealed WPB has been working on a new program to enable essential industries to obtain their fair share of the production which has been allocated to them or which is required to maintain the civilian economy at a level necessary to the successful prosecution of the war program.

To this end Mr. Nelson made public a report prepared by two investigators who had been sent into the field to survey the farm equipment situation. The investigators interviewed the farmers themselves and brought back answers as to what is wrong with the present system of supplying the tools for America's food production. They found eighteen "action points", or steps, that may be taken to ease the farm equipment situation.

Farmers reported bottlenecks existed in getting repair parts and so on. Mr. Nelson said that these recommendations would all be considered and that the farmer would get what he has to have to turn out food production.

Farm Machinery

At the same time, Mr. Nelson also declared that the other service industries would be similarly surveyed to determine what their material and manpower requirements are. The new division has already prepared a survey questionnaire which will be sent to plumbing and heating manufacturers at an early date. The reports will be used to determine accurately how much of each manufacturer's production should be set aside for civilian purposes. The division will attempt to set up definite allocations for civilian use by each producer.

Priority Form for New Plum

Although PD-851 might appear to offer plumbing and heating contractors the opportunity to sell new materials and equipment rather freely, contractors should not expect too much of the form at this time. Essentially, it is designed to replace PD-1A when priorities are requested in special cases.

An example of the use to which this new form may be put follows: Suppose a householder is ill or disabled so that he cannot climb stairs. PD-851 would be used by this householder to obtain a priority for a new water closet or lavatory on the ground floor.

WASHINGTON, D. C., April 23.—To expedite priority applications for new plumbing and heating equipment for civilian residential use, Form PD-851 has been issued by the Plumbing and Heating Division of the WPB. It can be obtained at WPB field offices and is to be filed by the occupant or owner of a private dwelling who desires priority assistance for the purchase of new plumbing, heating, do-

New Fuel Rationing Plan

Officials who gave DOMESTIC ENGINEERING preview of this year's fuel oil rationing regulation: George G. Traver; Wallace S. Sayers; L. C. Voss

WASHINGTON, D. C.—All pressure for conversion of private dwellings will be removed in the new fuel oil rationing program for next winter, according to present plans of OPA.

Pending formal announcement of next season's conversion policy, Fuel Rationing Division officials have revealed what the program will probably be.

In the borderline states of the fuel oil rationed area conversion will not be mandatory for plants using less than 10,000 gallons for the season. These states are Florida, Georgia, North Dakota, South Dakota, Kansas, Missouri, and the New England states. Conversion will be mandatory for all plants using more than 10,000 gallons per season in these states. There will be the usual provision for appealing.

In all other states, conversion will be virtually mandatory for commercial, industrial, and multiple-dwelling users. The multiple family dwelling is defined as a dwelling which houses four or more families or in which four or more rooms are rented.

The new rationing program is set up to start with the 10 gallon coupon unit. It is based upon conversions accomplished or under way amounting to 60,000,000 barrels and a goal by January 1 of 40,000,000 additional barrels or 100,000,000 barrels made available by the conversion program.

Although the new program is revised upward, the same percentage cut in heating use of 33⅓ per cent which was applied last year will be in effect for next winter season. There will be an increase in some allotments, particularly to the smaller houses, but no general decreases. OPA officials say the prospects look no worse for this season than last. The indications are that transportation will improve and that more oil will be brought in than last season.

(Continued on Page 86)

Plumbing and Heating

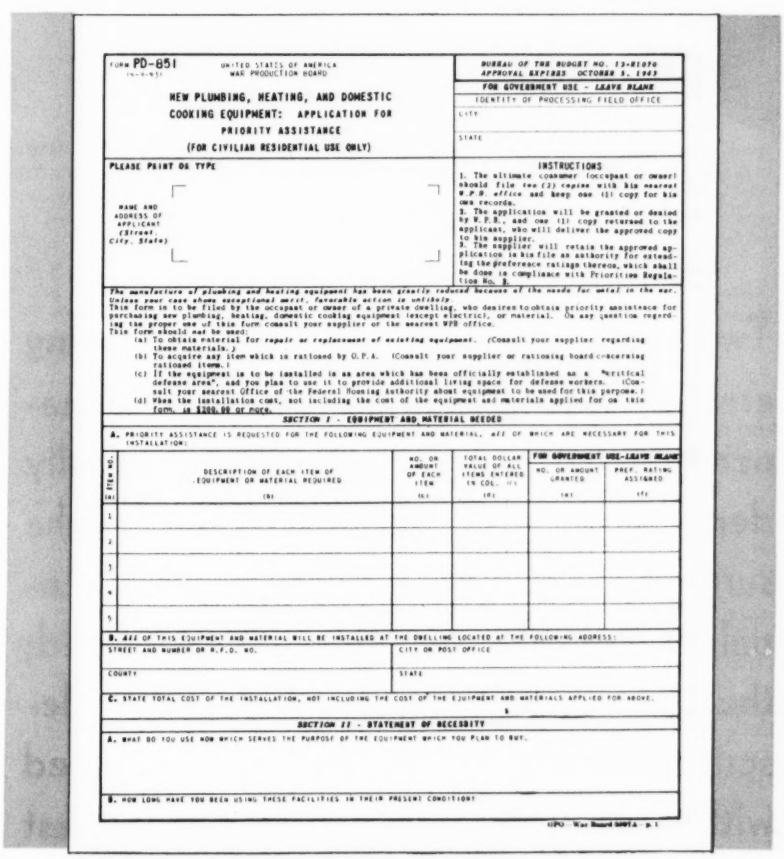
mestic cooking equipment (except electrical), or material, the sale of which is restricted by Limitation Order L-79.

This new form, which it is said, will be of mutual assistance to the purchaser, plumbing contractor and dealer, further simplifies the procedure so that applications will be handled in the field offices, which are more familiar with conditions in local areas.

The instructions indicate when the form should or should not be used. Form PD-851 should not be used to obtain plumbing and heating equipment for repair or replacement of existing equipment which is worn out, damaged or destroyed. Repair or replacement procedure should be handled by the material suppliers under Order P-84.

Form PD-851 should not be used to acquire any item which is rationed by OPA. The local rationing board should be consulted concerning rationed items.

When applying on Form PD-851, the ultimate consumer (occupant or owner) should file two copies with his nearest WPB Field Office and keep one copy for his own records.



FORM PD-851 (11-1-43) UNITED STATES OF AMERICA WAR PRODUCTION BOARD

BUREAU OF THE BUDGET NO. 13-R1070 APPROVAL EXPIRES OCTOBER 9, 1943

FOR GOVERNMENT USE - *LEAVE BLANK*

IDENTITY OF PROCESSING FIELD OFFICE

CITY

STATE

NEW PLUMBING, HEATING, AND DOMESTIC COOKING EQUIPMENT: APPLICATION FOR PRIORITY ASSISTANCE

(FOR CIVILIAN RESIDENTIAL USE ONLY)

PLEASE PRINT OR TYPE

NAME AND ADDRESS OF APPLICANT (Street, City, State)

INSTRUCTIONS

1. The ultimate consumer (occupant or owner) should file *two (2) copies* with his *nearest W.P.B. office* and keep one (1) copy for his own records.
2. The application will be granted or denied by W.P.B., and one (1) copy returned to the applicant, who will deliver the approved copy to his supplier.
3. The supplier will retain the approved application in his file as authority for extending the preference ratings thereon, which shall be done in compliance with Priorities Regulation No. 3.

The manufacture of plumbing and heating equipment has been greatly reduced because of the needs for metal in the war. Unless your case shows exceptional merit, favorable action is unlikely.

This form is to be filed by the occupant or owner of a private dwelling, who desires to obtain priority assistance for purchasing new plumbing, heating, domestic cooking equipment (except electric), or material. On any question regarding the proper use of this form consult your supplier or the nearest WPB office.

This form should *not* be used:

(a) To obtain material for *repair or replacement of existing equipment*. (Consult your supplier regarding these materials.)

(b) To acquire any item which is rationed by O.P.A. (Consult your supplier or rationing board concerning rationed items.)

(c) If the equipment is to be installed in an area which has been officially established as a "critical defense area", and you plan to use it to provide additional living space for defense workers. (Consult your nearest Office of the Federal Housing Authority about equipment to be used for this purpose.)

(d) When the installation cost, not including the cost of the equipment and materials applied for on this form, is $200.00 or more.

SECTION I - EQUIPMENT AND MATERIAL NEEDED

A. PRIORITY ASSISTANCE IS REQUESTED FOR THE FOLLOWING EQUIPMENT AND MATERIAL, *all* OF WHICH ARE NECESSARY FOR THIS INSTALLATION:

ITEM NO. (a)	DESCRIPTION OF EACH ITEM OF EQUIPMENT OR MATERIAL REQUIRED (b)	NO. OR AMOUNT OF EACH ITEM (c)	TOTAL DOLLAR VALUE OF ALL ITEMS ENTERED IN COL. (c) (d)	FOR GOVERNMENT USE—*LEAVE BLANK* NO. OR AMOUNT GRANTED (e)	PREF. RATING ASSIGNED (f)
1					
2					
3					
4					
5					

B. *All* OF THIS EQUIPMENT AND MATERIAL WILL BE INSTALLED AT THE DWELLING LOCATED AT THE FOLLOWING ADDRESS:

STREET AND NUMBER OR R.F.D. NO. | CITY OR POST OFFICE

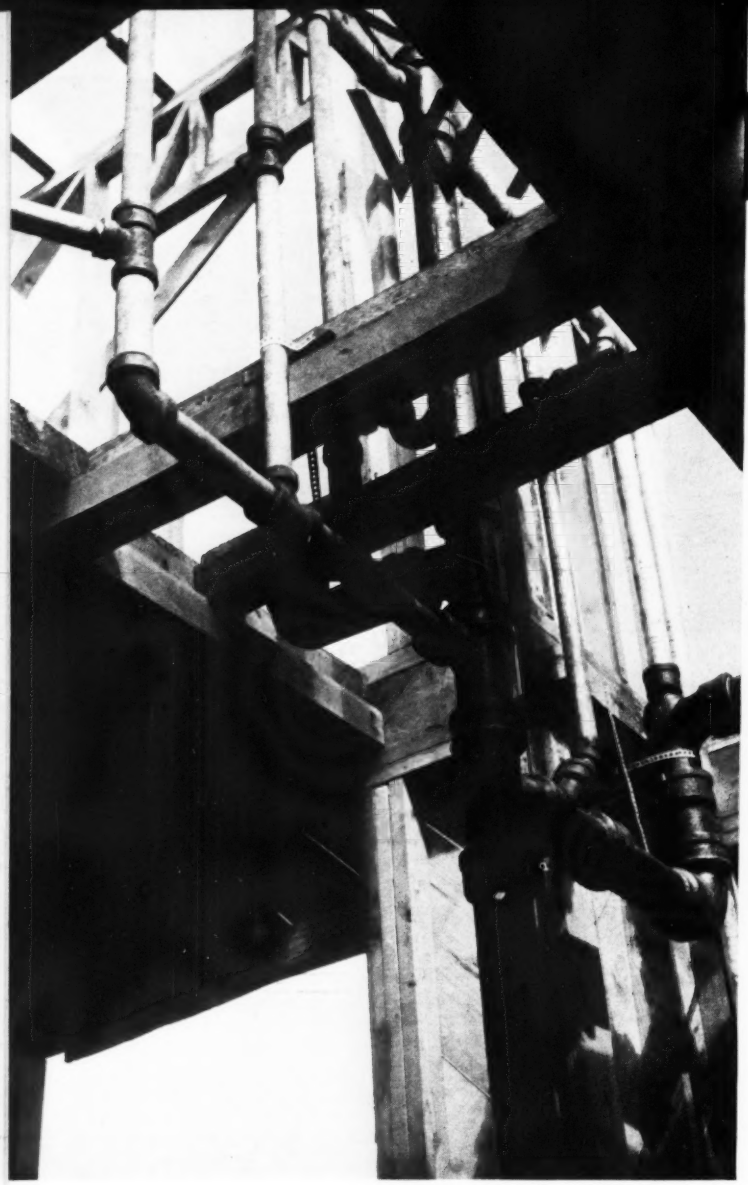
COUNTY | STATE

C. STATE TOTAL COST OF THE INSTALLATION, NOT INCLUDING THE COST OF THE EQUIPMENT AND MATERIALS APPLIED FOR ABOVE. $

SECTION II - STATEMENT OF NECESSITY

A. WHAT DO YOU USE NOW WHICH SERVES THE PURPOSE OF THE EQUIPMENT WHICH YOU PLAN TO BUY.

B. HOW LONG HAVE YOU BEEN USING THESE FACILITIES IN THEIR PRESENT CONDITION?



HOUSING

Two types of war housing are being erected in the country today—permanent and temporary—the type usually dependent upon the character of the surroundings or upon the postwar potentialities of the location. Parkmerced, the west coast housing development described in this article, has been planned with every intention of making it last

TODAY'S housing problem, especially acute in those areas wherein are centered key war industries, is being answered in two ways as applied to new construction. One is the type acknowledged as more or less temporary; the other is the sort of housing that will live long after the war and will constitute a credit to the community. In short, one falls under the head of a wartime expedient, a makeshift; the other is in line with long-range planning and is a direct contribution to the American aim of raising the living standard.

As everyone knows, there are too few housing projects under way that will stand the test of time. But an outstanding exception to the war-inspired type of construction — one that is planned and being built with an eye to permanence—is the Metropolitan Life Insurance Company's Parkmerced building project in San Francisco. Here the housing situation is particularly acute, as the San Francisco Bay area embraces, in the shipbuilding industry alone, no less than ten major plants, including the Mare Island Navy Yard.

2531 Home Units

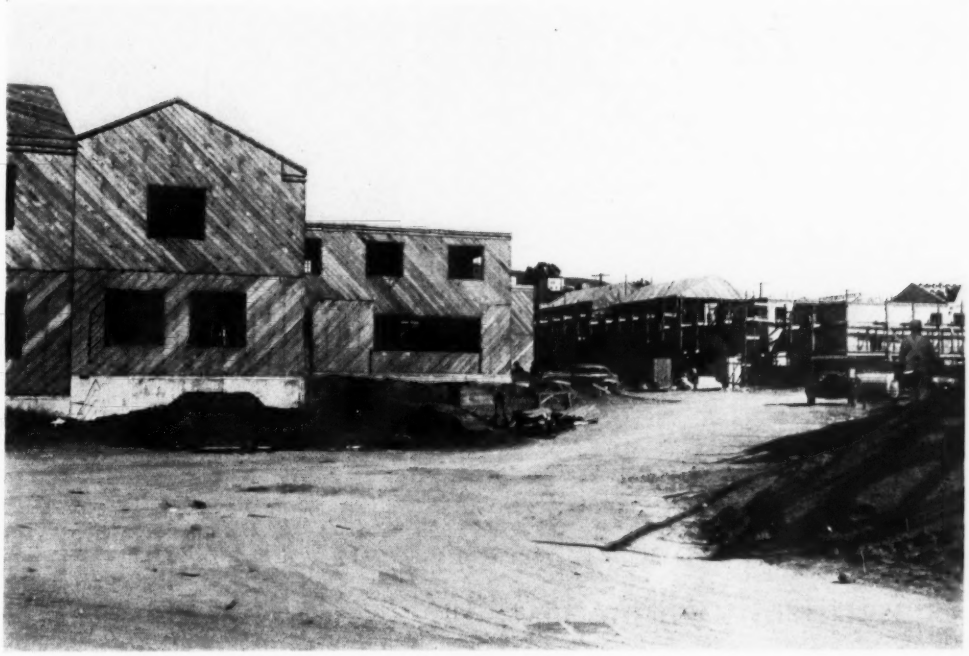
Here, in brief, is a word picture of Parkmerced. It is located within a mile of the ocean and occupies some 200 acres, divided into fifty-two blocks of irregular pattern, grouped for the most part around a central plaza or common. Five blocks of homes are being built of concrete; the balance are of frame construction.

There are 2,531 units planned which embrace 2,800 apartments. There is to be an abundance of play and recreation areas providing everything from slides and sand-boxes to badminton courts and baseball grounds. Trees, shrubs, lawns and flowers will supply the outward evidence of permanency.

Within — that is, between the walls and under the floors—is being installed

The photograph at the top of the page shows a typical vent and waste system installed in the Parkmerced housing development. This particular hook-up is for two bathrooms, back-to-back, and takes care of two baths, two basins and two water closets. With an eye to permanence all venting in the development has been done in accordance with the plumbing ordinances of the city and county of San Francisco

. . . . That's Built to Last



Various types of architecture prevail at the Parkmerced development. Some of the homes are of 5, 4 and 3½ room size, while others are of the multiple-home type. Both frame and concrete construction are used on the project. Badminton courts, playgrounds and plenty of room are evidences of the permanent nature of Parkmerced

a system of plumbing that also spells permanency. In other words, it measures up to the character of Parkmerced's homes and grounds.

In the first place, all health and fire-hazard precautions are employed as witness the fact that San Francisco plumbing and gas ordinances are strictly complied with.

Water is delivered to the project at 90 lb pressure, from 16 in. mains of the San Francisco Water Department, thence by three 12 in. branches laid out in a loop arrangement. Throughout the lines the pressure is equalized and continuously maintained: the lines themselves are so constructed as to preclude practically any possibility of a vacuum.

Water From City Mains

Each block has its own water-heating system. The water is heated by gas-fired heaters varying from one to four units, depending upon the number of homes served. Each heater will deliver 220 gallons per hour with an 80-degree rise, temperature 60 to 140 deg. The system is automatically controlled, and is provided with circulating pumping units.

Hot and cold water distribution lines, as well as the gas, are run outside the building line but within the property line. Branches for the various risers are taken off outside and brought within the building. All hot and cold control valves are placed in tile pipe sleeves so that a key handle may be used to operate the valves. Each fixture is individually controlled by stops.

In the sewer system, the piping is all extra heavy. Clean-outs are situated every fifty feet. They are arbitrarily installed at such intervals in addition to those required by city ordinances.

Each apartment is equipped with a warm air, gas-fired furnace. Fresh air is provided through a concrete duct from the outside.

Piping throughout the entire project —everything from ½ in. to 4 in.—was to have been brass and copper, according to the original specifications. But the intervention of war-time restrictions applying to such critical material called for some form of suitable substitution. Thus, black steel, cement-lined pipe and fittings were applied to the job and are now being installed—309,853 ft. of them, all told. An abrasive wheel is employed to cut this pipe in the pipe-shop on the job. Hot water tanks also are lined with cement. All outside hot water lines are insulated and waterproofed. Expansion loops are provided where necessary at various points.

Wartime Materials

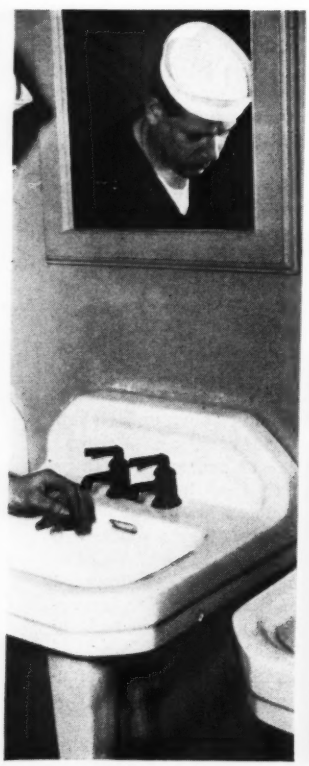
Each block will have its own laundry, consisting of from three to nine units, depending upon the number of tenants in each block. Besides the washers, each laundry will include gas-fired dryers and ironing boards.

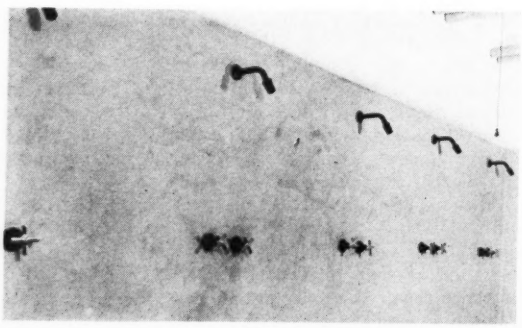
Laundries Installed

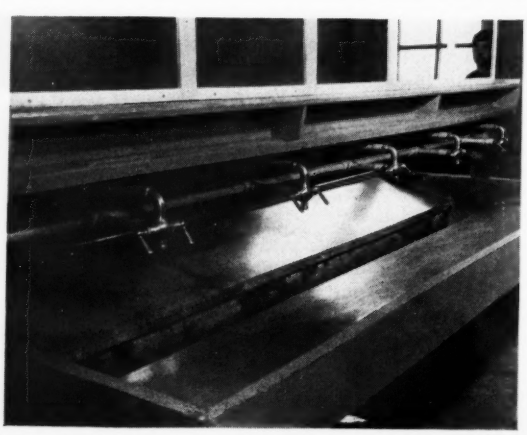
While Parkmerced might be termed a mass-housing project, it should in no way be confused with certain types of housing. It represents one of four such building investments being undertaken by this insurance company. Perhaps the most notable of such undertakings is that known as Parkchester in New York City, completed in 1941 at a cost of $65,000,000. Two other projects are under way—one in Arlington, Va., the other in Los Angeles, Calif. Parkmerced is the fourth of these mass housing undertakings. It will cost approximately $12,000,000. J. L. Murphy, Inc., of New York, is the plumbing and heating contractor.

Two Angles on Alternate Materials

1. The unsatisfactory war materials now installed will provide a tremendous replacement market. 2. The good ones will carry over to postwar period and consequently will modify plumbing and heating contractors' sales methods and installation techniques. . .







THE value of alternate and substitute materials to our industry's postwar world must be judged upon a different base and by a different set of standards than they are in war time. The rule today is: "Even if it costs more and still isn't as good, use it if it releases critical materials for the war." This will not be so later on when all materials will be relatively plentiful; then there will be many standards and they will be rigid ones and all these materials will be in a stiffly competitive era in which only the best will survive. Many of them have properties more

Photo at top of page: New tub of Carrara plate glass which, the designers believe, will have a promising future even after the war. The four foot-high walls of the tub fit into the shower alcove. The flat bottom is drilled for drain fitting. Can be had in a choice of colors

Photos at left: Substitutes "on the job" at Camp Green Bay, Great Lakes Naval Training Station: cast iron faucets and lavatory trim with non-critical composition plug; plastic escutcheons on showers; a general purpose washing arrangement built of wood, with stone drains. These are official U. S. Navy photographs

Photo at right top: Engineers and executives examine new "Victory type" flush valve in which malleable iron and plastics have released more than 5½ lbs. of critical copper for arms, ammunition, and other direct war uses. The product has withstood accelerated-time tests equal to ten years of normal service, after which it was without need of repair. Many of the plastic parts, notably the plastic housing of the vacuum breaker, may be retained after the war. Shown in the picture, left to right, are I. H. Russell, chief engineer; R. M. Nelson, president, and F. C. Binnall, research engineer—all Sloan Valve Co.

Right below: U. S. Navy photo showing typical flush valve installation in a cantonment building. The valves are equipped with plastic pistons and outlets

suitable to particular applications than the materials which they have replaced. For instance, officials of one manufacturing company point out that the plastic of which their new vacuum breaker is made is transparent, thus affording visual inspection of the breaker's operation.

These materials must meet the postwar test on three grounds—the manufacturers', the contractors' and the home owners'.

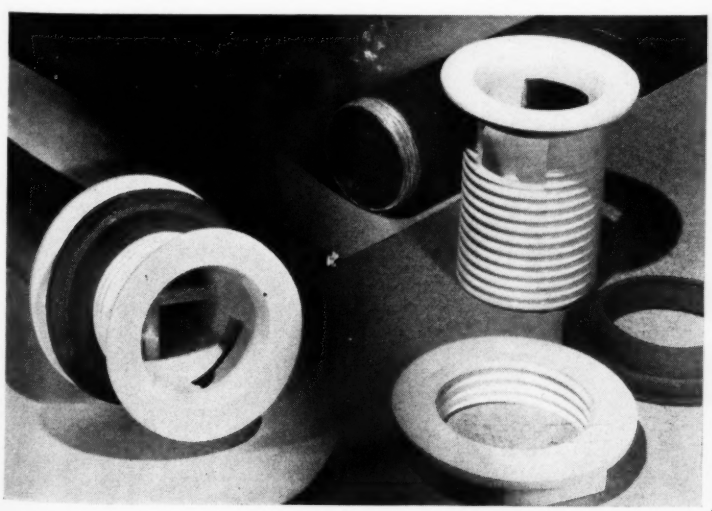
The maker will judge it upon its workability, the number of operations necessary for its manufacture, its initial cost and its final cost—these last two dependent, to some extent, upon the first two—and finally, if it will fill a need on the market and thus be saleable in direct competition.

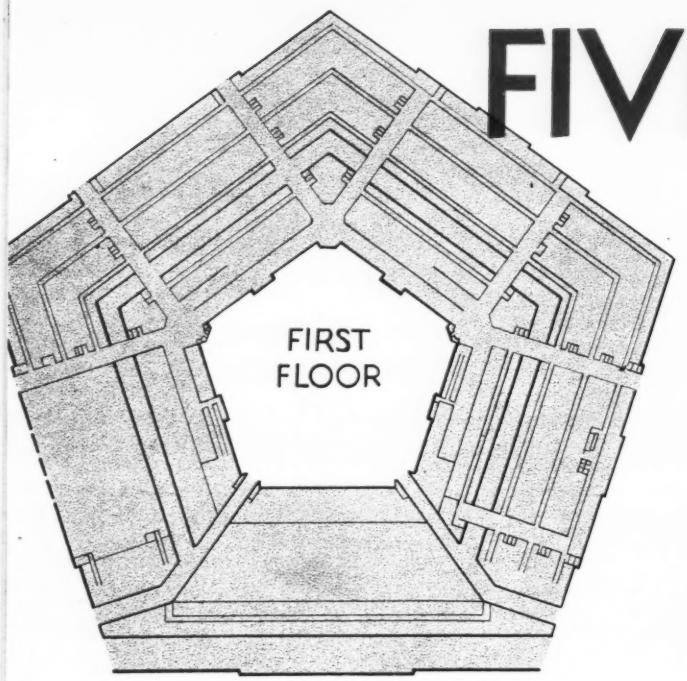
The contractor installing the equipment is the one who must contact the consumer—his customer. He is the one who must pay the journeyman who installs the equipment and he is also the one who must buy tools for installation. Therefore he is the one who wants to know: Will it last? Will it require new tools and new techniques? Can I safely recommend it? Is it up to

(Continued on Page 70)

Below: Non-critical fiber pipe being laid in trench. Not a new product, this pipe has been in use for many years for the protection of electric lines and for carrying petroleum products which would corrode many materials. Exigencies of war have brought new usages for this type of pipe—for drainage lines, connections to sewers and septic tanks, irrigation and subsoil drainage, downspouts and leaders. Is light in weight; can be cut with saw

Below: Sink drain of white plastic—one of the many plastic items now being produced to effect plumbing and heating repairs without recourse to critical materials. Drain consists of three sections: plastic surface lip and threaded section (one piece); rubber washer, and plastic washer shaped to fit standard wrench





FIVE SIDES . . .

1. Heating . . . . . .
2. Plumbing . . . . . .
3. Air Conditioning.
4. Refrigeration . . . .
5. Ventilating . . . . .

(First of Two Parts)

The drawing above is a sketchy outline of the Pentagon's first floor arrangement. Photo immediately above shows the boiler aisle with stokers. Fan installation is shown in photograph at right. Other photographs showing duct installation work for ventilating system in the Pentagon will be shown in the second part of the article to appear next month

"If you have not yet seen the Pentagon Building. Don't worry. You will. You may not even have to come to Washington to see it at the rate this structure is growing."—Anon.

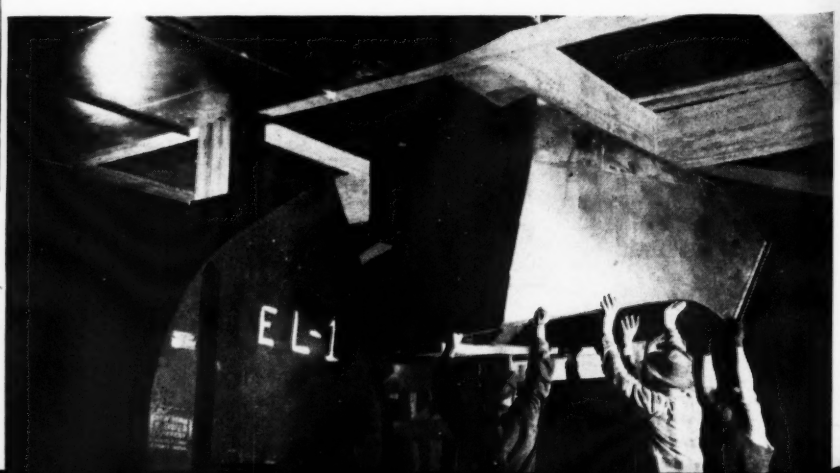
VISUALIZE installed under one roof, all of the plumbing, heating, ventilating and air conditioning equipment needed to service a city of 40,000 population—say Pougkeepsie, N. Y.; Muskegon, Mich.; Meriden, Conn., or Lima, Ohio!

Such a flight of fancy gives one a rough idea of the problems involved in engineering and operating comparable facilities at The Pentagon, the five-sided, mile-around headquarters building of the War Department, located at Arlington, Va., just across the Potomac river from Washington, D. C.

Even in a city famous for magnificent distances, architectural grandeur and spacious corridors, The Pentagon is a building dwarfing all previous Washington conceptions of magnitude. The former Hoover-Washington airport provided merely a starting point for the "building site" occupied by the five-story structure and its adjacent facilities—roadways, ramps, parking spaces, landscaped approaches, power plant and sewage disposal plant.

The Pentagon proper covers 36 acres; including a 6-acre inner courtyard, and provides 3,634,490 sq ft of office space now occupied to 85 per cent of capacity by 35,000 employees. Floor space devoted to special areas totals 646,135 square feet, and the area of storage spaces is 471,977 square feet.

To understand the method of provid-



. TO A PENTAGON*

ing plumbing, heating, ventilating and air conditioning facilities for a building so vast it is necessary to have a general picture of the arrangement of The Pentagon. As the name implies, the building is pentagonal in shape, each of its five floors radiating outward in five rings from a central five-sided courtyard.

The outer perimeter of the pentagon is only slightly less than one mile in circumference.

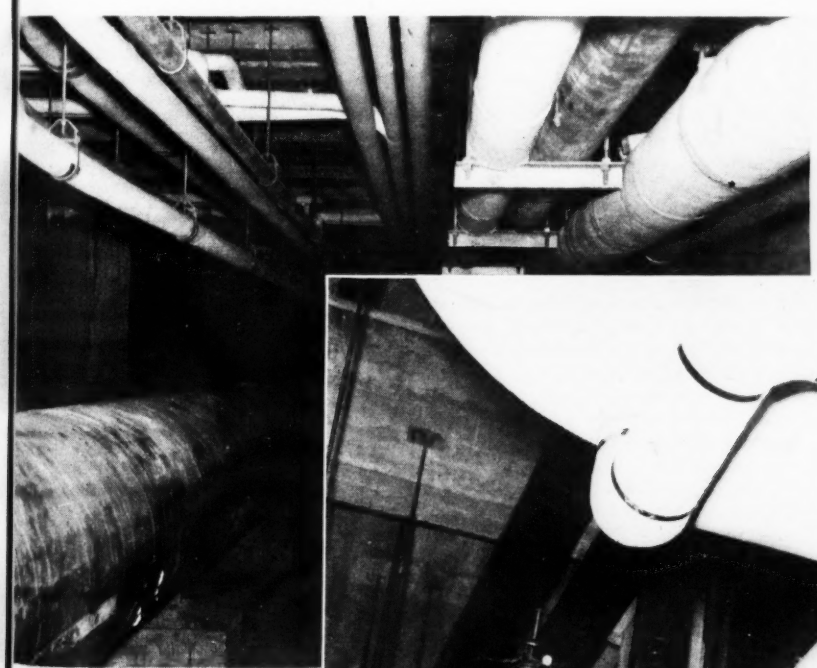
The major part of the floor area consists of open work spaces in rings 50 feet wide and approximately 400 feet long, separated by radial corridors. The spaces can be subdivided by solid or temporary partitions into a central 10-foot corridor flanked by 20-foot offices. In addition to the general offices there are spacious suites for the Secretary of War and other high officials of the War Department.

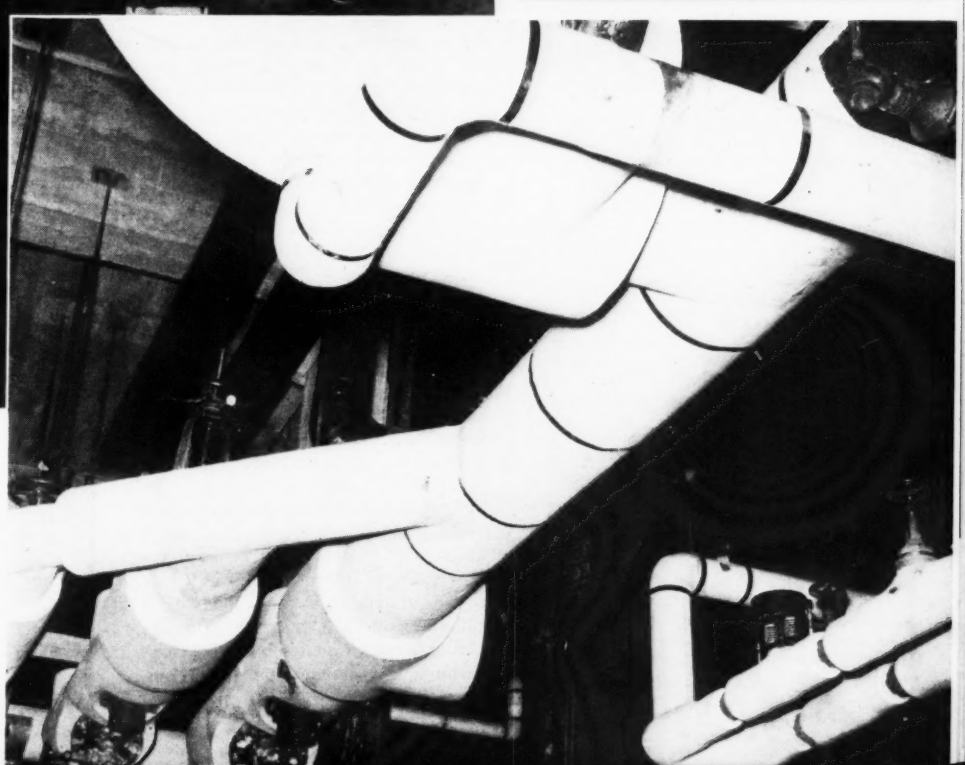
On the second, third and fourth floors, between the systems of ramps leading out of the concourse, there are 28 cafeteria lines. Each line serves an area 30 by 110 and seats 202 persons, or a total of 5840 seats. Special cafeterias for messengers and dining rooms for officers provide another 785 seats, and a soda bar off the concourse is proposed. In addition ten beverage bars dispense cold drinks, sandwiches and desserts during the day.

All these are served by a main kitchen on the first floor, which covers 70,000 square feet and includes a bake shop, 12,000 ft of refrigerated rooms (some

(Continued on Page 70)

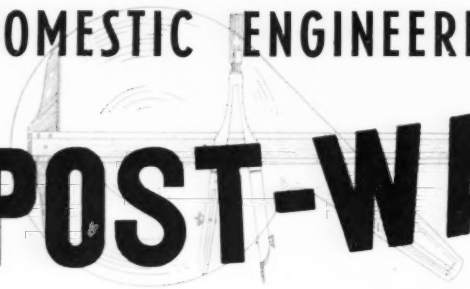
*World's Largest Office Building





The photo at top right gives a good idea of the expanses encountered in the Pentagon. A view into one of the distribution tunnels appears above and a detail of piping is shown in picture at the right. The second part of this article, appearing next month, goes into detail description of the building's mechanical facilities

DOMESTIC ENGINEERING'S



POST-WAR PLANNING

for the
Plumbing, Heating and Air Conditioning Industry

ANALYSIS and INFORMATION BULLETIN

Pertinent Answers

VERY significant results were obtained recently from a postwar planning survey conducted by Research Institute of America. Hundreds of manufacturers, from the smallest to those employing more than 5,000 persons, were asked a series of 26 questions.

The answers obtained are of interest to contractor-dealers, as well as manufacturers, because they indicate many points about postwar markets, products and supply sources.

Tabulations of answers to questions most pertinent to our industry are given below:

Question: Which of the following wartime developments do you think will produce the greatest change in the conditions under which your business will operate during the postwar period? . . . Replies were as follows:

New competition from war-created firms	13%
New products	18
New materials	17
New manufacturing processes	17
Shifts in population	8
Shifts in purchasing power	11
Aftermaths of wartime controls like priorities, prices, etc.	16

Question: Which of the following general postwar possibilities are you most concerned about? . . . Replies were as follows:

Extension of Government control over business	24%
Complications from Government ownership of plants built during the war	12
Increased labor union strength	18
Continuation of high tax rates in the postwar period	18
Inflation	15
Postwar depression	13

Question: Which of the following postwar problems do you anticipate will be the most difficult for *your* company? . . . Replies were as follows:

Re-converting tools and equipment.	4%
Financing conversion and peacetime operation	7
Adjusting to new materials and techniques	8
Finding new products to take the place of war contracts	9
Termination of war contracts	8
Utilization of expanded plant capacity	9
Maintaining present number of employees	13
Rehiring inducted employees	10
Regaining old markets	9
Winning new markets	11
Postwar labor relations	12

Question: Do you plan that your first peace-time products will be: . . . Replies were as follows:

Of brand new design?	19%
Continuation of Victory or war models?	21
Of pre-war design?	60

D.E. Survey

RESULTS of a recent DOMESTIC ENGINEERING survey among manufacturers of plumbing and heating equipment are interesting in relation to the Research Institute of America survey. The DOMESTIC ENGINEERING questionnaire was designed mainly for manufacturer's self-analysis, but it was suggested that the form be returned if the manufacturer had obtained worthwhile suggestions from it. A substantial number responded.

The questions, with a summary of the answers to each, follow:

Question: Do I have war contracts? . . . The answers were 8 to 1 "yes."

Question: Do these contracts continue through 1943? . . . Answers approximately 4 to 1 "yes."

Question: If my contracts are due to expire soon will they be renewed, or will I be able to switch my production to some other war product such as airplane parts, ship parts and similar items? . . . Answers about 3 to 2 "yes" with some not answering.

Question: Am I still in production on prewar products for essential repairs and replacements? . . . Answers about 2 to 1 "yes."

Question: Have I been able to improve or maintain my goodwill with plumbing and heating contractors through continuance of service or through communications explaining my inability to continue to serve them? . . . Answers considerably more than 3 to 1 "yes."

Question: Have I greatly improved my product to meet conditions and competition of today and the postwar period? . . . Answers approximately 2 to 1 "no."

Question: Have I developed new products for release to the plumbing and heating industry as soon as I get back into civilian production? . . . Answers about 2 to 1 "no." (In other words, one in three has a new product "under wraps" for release after the war, an astonishingly large proportion.)

Question: Do my plans include utilization of new raw materials, such as magnesium, aluminum and plastics, which will be available? . . . Answers were again approximately 2 to 1 "no."

Question: Assuming that I should be enabled or encouraged to produce civilian plumbing and heating goods in 1941 volume, am I adequately fortified in all of the following classifications: factory space; factory personnel; tools and dies; sales organization; dealer organization? . . . Answers almost 4 to 1 "yes." (Question probably contained too many elements to show results particularly exact. It was thought, however, that the one question would actually become four in the manufacturer's self-analysis work.)

Question: Have I effective sales and advertising plans to market the full postwar production capacity of my company? . . . Answer practically 2 to 1 "yes."

Dept. of Commerce

PERHAPS the most complete analysis of business possibilities after the war has just been issued by the Department of Commerce in a study entitled, "Markets After the War . . . An Approach to Their Analysis."

While the projected figures on possible production and sales volumes in postwar are immense, cautions and qualifications against painting the pic-

(Continued on Page 117)

Essex Fells Plbg. & Htg. New Jersey

Belden-Porter Company Minnesota

Donald Miller Company Michigan

Contractors HONOR ROLL

The Spohn Htg. & Vent. Co. Ohio

R. M. Getschow Illinois

Howe Bros. California

Northwestern Htg. & Plbg. Illinois

E. A. Knab Htg., Plbg. Co. Wisconsin

J. H. and H. D. Musselman Pennsylvania

FIGURES all in a row, no matter how long the row, aren't always as impressive as they should be.. For instance, the mention of America's 90,000 plane production goal may not frighten Hitler stiff, but if 500 bombers roared over Berchtesgaden while he was sunning himself he would probably be deeply impressed.

So it is with the work done by our industry in the war program. Tabulation of "300 fixtures . . . complete sanitary system . . . process piping . . . power plant piping" will give little idea of the technical skill and trained organization needed to complete such a project. However—insofar as it is possible to dramatize our industry's accomplishments by simply listing its jobs—we will attempt to show on these pages what has been done and what is still being done by heating, air conditioning and plumbing contractors.

This Honor Roll, continued from last month, lists the names of typical contractors and, following the names, the jobs on which they have worked.

• • •

Essex Fells Plbg. & Htg.

The following listed valuable war work has been contributed by the Essex Fells Plumbing & Heating Co., West Caldwell, N. J., according to C. John Klimback.

War Plant in New Jersey—plumbing and heating (80 plumbing fixtures)

Another war plant in New Jersey—plumbing and heating and special piping work

Commercial building in New Jersey—plumbing and heating

Manufacturing plant in New Jersey—plumbing and heating

• • •

Belden-Porter Company

Belden-Porter Co., Minneapolis, has handled the important jobs which are listed below. On the first two of these P. J. Gallagher & Sons, Faribault, Minn., cooperated, according to H. Merwin Porter.

Two areas in an army training camp in Wisconsin—plumbing and heating for 464 buildings

Housing project in Illinois—plumbing in 146 buildings

Large manufacturing plant in Minnesota—twelve 250 hp boilers; plumbing, storm sewers and fire lines

Airplane hangar in Minnesota—plumbing and heating.

Roy M. Getschow

Roy M. Getschow, Chicago contractor, has an impressive list of accomplishments which are shown in the following:

Naval training station in Illinois—heating and ventilating for 60 barracks, 13 ward buildings, 6 miscellaneous buildings

Aircraft and engine plant in Illinois—heating, ventilating, refrigeration and air conditioning for 2 power plants and 18 manufacturing buildings. Process piping for the manufacturing plant

Public utilities power plant in Illinois—147,000 kw turbo-generator and complete piping for boilers

Two industrial power plants in Illinois—complete piping systems for boilers, turbines, feed water heaters, etc.

Manufacturing plant in Illinois—heating, ventilating, boiler plant and process piping

Research laboratory in Illinois—heating, ventilating, steam distribution and process piping

Above, left to right: Joseph S. Kearney, Northwestern Heating and Plumbing Company, Evanston, Ill.; C. John Klimback, Essex Fells Plumbing & Heating Co., West Caldwell, N. J.; Edward A. Knab, E. A. Knab Heating & Plumbing Company, Milwaukee. All these contractors have done work which is listed on these pages

Donald Miller Company

The Donald Miller Company, Detroit, has rung up the following record:

Willow Run Bomber Plant in Michigan—all plumbing, heating, power plant and process piping

Aircraft engine plant in Michigan—all plumbing, heating and process piping

Magnesium smelter building in Michigan—all plumbing, heating and process piping

Turbo-charger test cells in Michigan—all plumbing, heating and process piping

Armor plant building in Michigan—all plumbing, heating and process piping

New steel foundry in Michigan—all plumbing, heating and process piping

Aluminum foundry in Michigan—all plumbing, heating and process piping

• • •

Howe Bros.

Howe Brothers, Los Angeles, has also played its part in the building and production program with the following projects:

Anti-aircraft firing center in California—plumbing and heating in 300 buildings (two complete boiler plants; 500 bed hospital section; steam distribution lines; approximately 5,000 plumbing fixtures)

General hospital in California—750 bed hospital (complete plumbing, heating, utilities)

Seven housing projects in California—One project with 401 dwelling units; one with 600 units; a third with 285 dwelling units; a fourth with 440 units; a fifth with 164 units; a 1,000 man dormitory; and the seventh and largest, 2,000 dwelling units

U. S. Quartermaster's warehouse in California—nine warehouses

Large aircraft plant in California—administration and five other buildings

Manganese ore plant in California—complete plumbing and heating installation

Schedule for army training camp in California—325 buildings (plumbing and heating)

Addition to army training camp in California—plumbing and heating for 150 buildings

Aluminum plant in California—plumbing, heating, ventilating, fire protection services and standby gas service

• • •

E. A. Knab Htg. & Plbg. Co.

E. A. Knab Heating & Plumbing Co., Milwaukee has done substantial volume of work for war plants.

Manufacturing plant in Wisconsin—unit heater system added to three floor addition; 25,000 sq ft. vacuum pump installed

Manufacturing plant in Wisconsin—heating system and piping for process work

Foundry in Wisconsin—steam pump of 25,000 sq ft. capacity and general reconditioning

Machine shop in Wisconsin—complete radiant heating plant

• • •

Northwestern Htg. & Plbg.

Northwestern Heating & Plumbing Company, Evanston, Ill., has received an "E" award as a participating sub-contractor in Navy construction. A description of the work follows:

Navy training station in Illinois—heating and ventilating systems for office buildings, class room building, brig buildings, barracks buildings; also installed underground steam mains

• • •

The Spohn Htg. & Vent. Co.

The Spohn Heating & Ventilating Company, Cleveland, is another firm which has received an "E" for its good work in government projects.

An ordnance plant in Ohio—heating, plumbing and ventilating in fuse lines, dormitories, pumping stations, etc.; process piping

• • •

J. H. & H. D. Musselman

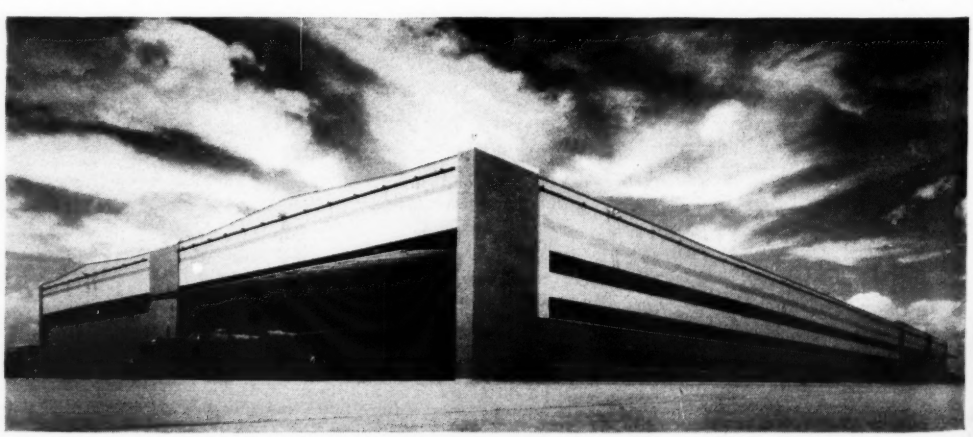
J. H. & H. D. Musselman, contractor of Lancaster, Pa., has been working full-tilt on various projects, all of which are in the war program.

A plating and machine works in Pennsylvania—high pressure steam boiler, steam and electric pumps, process piping, etc.

Manufacturing plant in Pennsylvania—new plumbing and heating equipment, process lines, piping, miscellaneous equipment

Airplane propellor manufacturing plant in Pennsylvania—reconditioning work on boilers and stokers, new process piping, steam piping, new pumps, etc.

Paper company in Pennsylvania—all piping to new machinery, forced oil system, high and low pressure steam process piping, pumps, gages, reducing valves, water lines and miscellaneous piping



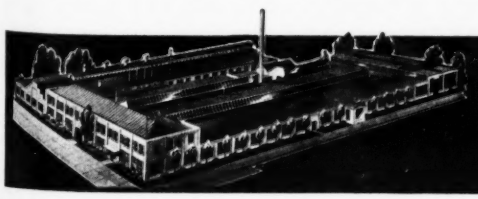
The Donald Miller Company (see above) did the plumbing and heating work in the Willow Run Plant, Ford's famous bomber factory, final assembly building of which is shown at the right. An article on this huge war plant will start in the June issue of DOMESTIC ENGINEERING

WROT FITTINGS

AND COPPER PLUMBING WILL BE *"firsts"!*

in the home of tomorrow. Although the building of homes and production of home devices is at a standstill, the minds of designers are taking gigantic strides forward and the promise of the future grows ever richer. Progress has not ceased . . . for the new techniques and new productive facilities born of war's demands will place the finest copper plumbing with NIBCO Valves and Fittings, automatic heating and other mechanical conveniences easily within the reach of all. What was best when the war began will not be good enough in the humblest home of 194X. We, too, are moving forward, doing things we never dreamed of doing . . . and there will be new and finer NIBCO products when the war is won.

Buy More War Bonds



NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA
VALVES AND FITTINGS SINCE 1904

Questions From Readers

Fusible Plugs

The following letter is in answer to a question in the April issue. It was received after that issue went to press. The reader wanted to know if it would be advisable to fill ordinary bushings with pure tin or a tinlead alloy in order to make fusible plugs which he was having a hard time geting.

To the Reader:

We, as a manufacturer of fusible plugs, would not recommend that anyone attempt to make up a fusible plug or to fill, with some mixture of metal, a plug that has blown. We say this for two reasons. First of all, fusible plugs are made to ASME regulations and are made very carefully following a certain design which has proven to be satisfactory. A bushing may have a hole on the inside the wrong size to serve as a fusible plug even if this makeshift plug was filled with the correct fusible metal .

I don't mind telling you that we fill all our fusible plugs with pure Straits tin which has a melting point of approximately 449 F. Then each and every plug is carefully tested under 200 lb water pressure to make sure that the plug does not leak. Anyone can make plugs if they will follow these various steps but a fusible plug is too important an item on a boiler, we believe, for anyone to attempt to make one up by hand.

Don Pigott
Consolidated Brass Company
Detroit

• • •

Pump Trouble

The question which appears below also appeared in the March issue of Domestic Engineering. It is reprinted here because of the comment which A. L. Johnson, Clearfield, Pa. makes following the question.

To the Editor:

The drawing (See P. 62, March, issue) illustrates a problem with which we would appreciate help. The pressure on the city water is 8 lb before it enters the pump. The pump shoots it up to 25 lb but the pressure switch will not shut off the pump; it keeps running with the 25 lb registered on the gauge. If the main switch is turned off the pressure will drop back to the city pressure of 8 lb instead of holding at 25 lb.

This is an old installation so I do not know whether a check valve from the water main will help. The pump is of the centrifugal type and I have been wondering if wear on this type of pump would cause it to work this way?

Illinois **J. K.**

To the Reader:

I have the following suggestions to make regarding the pump trouble experienced by J. K. of Illinois. If this is a new installation he may find that the capacity of the pump is greater than the ability of the main supply line to deliver water to the pump. This would cause the pump to fail after its suction limit had been reached.

If this is an old installation I would suggest renewing all the wearing parts of the pump; this latter in case he does not find any leakage in the bypass. Future trouble could also be eliminated by taking the discharge pipe from the pressure tank from the opening on the side of the tank near the bottom.

Pennsylvania A. L. Johnson

• • •

Can You Answer This?

The following question is published in order that readers may submit their solutions. For the most complete and accurate answer, which will be published, Domestic Engineering will pay $5.00. Address your answers to The Editor, Domestic Engineering, 1900 Prairie Ave., Chicago.

A pneumatic tank of 750 gal. capacity must supply water to a building at pressures ranging from 25 lb. gauge minimum to 40 lb. gauge maximum. How much water could be drawn from the tank starting at the 40 lb maximum pressure before the tank pressure would be reduced down to the 25 lb minimum pressure (a) If no initial air pressure is used? (b) if 25 lb initial air pressure has been used before the tank was filled with water?

• • •

April's Answer

The pressure exerted against the cap on the outlet of the pipe will be acting upon the area of the end of the cap taken on the inside. Since the cap fits over the outside of the pipe it will be necessary to calculate the cross sectional area of the pipe based on the outside diameter. The outside diameter of a 4 in. pipe is 4½ in. and the area of circle having a diameter of 4½ in. is 15.9 sq in. The pressure on this area with 50 lb pressure in the pipe will be

15.9 sq in. x 50 lb or 795 lb.

Some caps are slightly enlarged below the thread and if a more exact answer is required the internal diameter of the cap below the thread would have to be calipered and this diameter used instead of the outside pipe diameter.

The stress per lineal inch of thread would be computed on the "effective" or perfect threads in contact between the cap and the pipe. The problem states that the cap is screwed onto the pipe for a distance of 1¼ in. The length of perfect threads on a 4 in. pipe is 1.3 in., thus giving 1¼ in. of perfect threads in contact. The pitch diameter of the pipe thread is 4.33 in. at the beginning and 4.39 in. at the end of the perfect threads; this gives an average pitch diameter of 4.36 in. The average length of the thread going once around would be the circumference of a circle having a diameter of 4.36 in. and

4.36 in. x 3.14 is 13.7 in.

Therefore, the length of each thread for one complete revolution and taken on the pitch diameter of the thread is 13.7 in.

The pitch of the thread on a 4 in. pipe is ⅛ in.; in other words, there are 8 threads per inch of length. So if the cap were screwed onto the pipe for a distance of 1¼ in., the number of threads which would be engaged would be

8 threads x 1¼ in. or 10 threads.

Then, if there are 10 complete threads engaged and each is 13.7 in. long, the total length of engaged thread must be

13.7 in. x 10 threads or 137 in.,

and since these threads resist a pressure on the cap amounting to 795 lb, the stress per lineal inch of thread must be

795 lb. / 137 in. or 5.8 lb per inch.

Alabama J. M. O.

• • •

So Tanks Won't Float

To the Editor:

In past years our company has had a lot of spring trouble jobs which were caused by hard rains and flooded and saturated earth.. Specifically, quite a few oil tanks of the underground type have popped out of the earth when a combination of empty tanks and wet weather arrived simultaneously. We don't expect to be able to do anything about

(Continued on Page 64)

What's behind the TRADE MARK?

BEHIND the trade mark of The Youngstown Sheet and Tube Company is an interesting story. Founded in 1900, its career is a typical American achievement, representing 43 years of steady, substantial growth. As the original plans of its founders have gradually unfolded, Youngstown has been permitted to make material contributions to the welfare of the nation.

Integrity of purpose, courage, ability, a spirit of venture, the will to serve its customers—these are some of the things that give life and substance to the Youngstown trade mark. They have built the company from its small beginning with only a few thousand tons capacity to a position among the leaders in 1943—with an annual capacity of 4,000,000 tons of steel.

We here at Youngstown are devoting our energies 100% to meeting the emergencies of war now as we did in World War I. When peace comes, we shall devote all our resources to the requirements of our thousands of customers old and new.

The YOUNGSTOWN
SHEET AND TUBE COMPANY, *Youngstown, Ohio*
Manufacturers of
CARBON · ALLOY AND YOLOY STEELS

Pipe and Tubular Products • Sheets
Plates • Conduit • Bars • Tin Plate
Rods • Wire • Nails • Tie Plates and
Spikes • Alloy and Yoloy Steels

25-47F

Questions From Readers

So Tanks Won't Float

(Continued from Page 62)

keeping in the ground those tanks which are already there but we would like to know what to do in order to prevent a recurrence of this trouble.

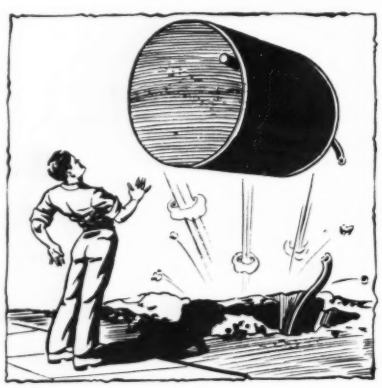
New Jersey P. T. R.

To the Reader:

Your question was referred to H. P. Reger, H. P. Reger & Company, Chicago, inasmuch as this contractor has done considerable work on gasoline and oil storage tanks. Mr. Reger very kindly sent us the answer in a letter from which we quote:

"I presume most of this trouble occurs where there is surface water. From time to time we have had problems such as this and recently we overcame it by putting in a heavy concrete foundation and anchoring the tanks to the foundation.

"The important part, in a situation such as this, is to have sufficient weight



Keep 'em in the ground!

in the foundation to which the tanks are anchored to prevent the empty tanks from lifting it. The tanks must be anchored to withstand a buoyant effect approximately 10 per cent greater than the weight of the tanks.

"We can say that the installation where we had this latest experience turned out very successfully. The tanks we installed were of 20,000 gal. capacity and it was therefore necessary for us to put in a foundation heavy enough (counting the weight of the tanks) to overcome the water pressure.

"The larger the tank the greater the surface and the easier it is for the water to raise it. Of course, oil tanks can always be set above the ground but then trouble may arise if there is cold weather and the oil congeals. In such cases it is necessary to install heating coils in the tanks. The best way to handle the very small tanks is to set them up in the basement of the house."

H. P. Reger, Chicago

Where tanks are empty because ration supplies have been exhausted, ration regulations now take this possible difficulty into account and tank owners can apply to local ration boards for emergency rations sufficient to keep the tank from floating. Discretion as to the possibility of the tank's floating and the amount of oil necessary for ballast purposes rests with the local ration board. —Ed.

• • •

Sectional Boiler

To the Editor:

I am having trouble with a new sectional boiler giving off coal gas when it is banked for the night. The previous boiler was a round boiler connected up to an 8 in. by 8 in. flue and gave no trouble in this respect. When the new boiler was put in and connected up to the same flue it burned all right when the drafts were on but, when shut down for the night after allowing a period for it to burn off the gases, it continued to give off gas. Thinking that the flue might be undersized, the owner had a new 9 in. by 12 in. flue built into the chimney but this did not improve the condition. On the other hand, if the fire is not checked at night, it burns out. There does not seem to be anything wrong with the chimney; it extends above the peak of the roof and the top is about 38 ft above the smoke pipe opening; there is no pocket at the bottom below the smoke pipe opening.

New Jersey. F. J. W.

To the Reader:

We are of the opinion that you should try to locate the trouble by checking from two angles—first, installation and second, operation. Under installation we would suggest that you see that the joints between the boiler sections are all cemented up tight so that no gas can leak out of the boiler from the firebox and/or gas passages. Also check up the smoke pipe and see that the joints are tight between the different lengths, at the connection to the boiler and at the point where the smoke pipe enters the chimney. Also see that the ash pit door is tight and that the check damper in this door fits well.

Under operation it might be that the owner has unfortunately secured some coal that gives off a great deal of gas, or gives it off for a longer period, than most coals. When banking at night the ashpit door and its damper should both be tightly closed and the slide damper in the firing door should be open; the check damper on the boiler smoke outlet should be closed and the main damper in the smoke pipe also should be closed but should not be a very tight damper. In other words, the smoke pipe damper should have a small space left open to carry off the gas during the night. The reason for this is to keep a little air flowing **across** the fire to carry off the gas but not **through** the fire so that the fire will burn up. We know of a case where coal gas gave annoyance all the first winter but disappeared the second season; this probably was a result of the small leaks in between the boiler sections gradually becoming filled up with soot.

• • •

Gas in Fireplaces

To the Editor:

Recently I have been called on to repair three fireplace gas burners made of clay in the form of logs. These logs have small perforations on the face from which the gas is emitted and where it burns. At the present time these logs give a yellow flame and I see no way to adjust the gas and air supply for same. The gas comes in through a ¾ in. pipe which is connected directly to the log full size and without any mixing chamber or air shutter. I cannot figure out how the log gets secondary air to mix with the flame. The logs are about 40 years old and seem to be in excellent condition. Can you give me any information in regard to this?

New York. J. F. S.

To the Reader:

Concerning the matter of the gas logs we are advised by one of the largest public service companies engaged in the manufacture and sale of gas that it is not permissible to use an air mixer on the gas supply to perforated logs such as you describe owing to the fact that the space inside of the log forms a considerably large chamber so that a mixture of air and gas in this chamber would be liable to back fire when the fire is started or turned off.

Incidentally, a blue gas flame does not produce more heat than a yellow one. As far as we can find out the complete combustion of the gas—whether it is accomplished by a blue flame or a

(Continued on Page 82)

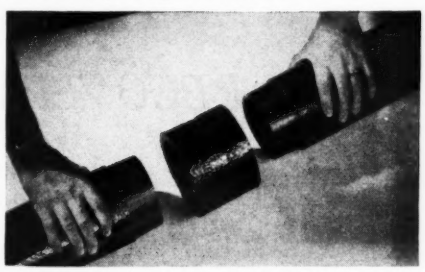
Tight joints are a cinch with this

NEW NON-METALLIC PIPE

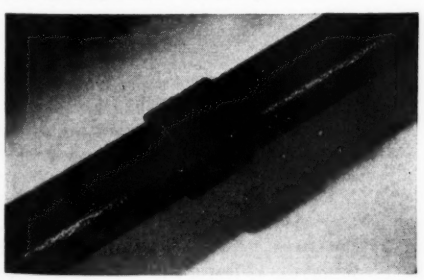
for drainage and other non-pressure uses

In laying tight lines, permanently water-tight joints can be made as rapidly as pipe is laid in trench. A 2° taper is accurately machined on the ends of each length.

A mating taper is machined on the sleeve coupling as shown above. When the coupling is driven on to the pipe a tight seal is made.



Actual assembly is simple. A block and light sledge drive the joint home with easy blows. No sealing compound is necessary.



On 4" pipe, a 1500-pound pull is required to separate the joint. Compared with other types of pipe, there are fewer joints to make.

Here's the pipe the whole plumbing trade is talking about. Are you selling it and getting your share of the profits? Don't lose business because of wartime scarcity of metal pipe when this exceptional new product is available. It's not a substitute—but an improvement over cast iron and tile pipe for many domestic and industrial non-pressure uses including:

- **Connections from House-to-Sewer or Septic Tank**
- **Septic Tank Filter Beds**
- **Downspouts; Storm Drains**
- **Drainage of Farmland**
- **Foundation Footing and Sub-Soil Drainage**
- **Sleeves in Concrete Walls and Floors; Weepholes**
- **Greenhouse Irrigation**

It is resistant to alkalies, salts, and dilute acid solutions—and being non-metallic, does not tuberculate. Can be sawed, bored and worked with ordinary tools.

Also available with perforations on underside, especially recommended for septic tank filter beds. This ORANGEBURG feature provides complete drainage. Snap couplings keep pipe in line, speed installation, protect joints against clogging.

CHECK THESE 5 BIG FEATURES:

- **REPELS ROOT GROWTH**—due to its composition Orangeburg Fibre Pipe is resistant to root growth.
- **NON-METALLIC**—saves critical materials . . . available for quick delivery.
- **DURABLE**—pipe of this composition has been time-tested underground for 50 years.
- **EASY TO INSTALL**—light in weight.
- **ECONOMICAL**—low in both original and installation costs.

Now being advertised in leading home and farm magazines. Write for Catalog No. 301 today!

THE FIBRE CONDUIT COMPANY
Orangeburg, N. Y. (DE-5)
Please send descriptive literature on Orangeburg Fibre Pipe.
Name .....
Company .....
Address ..... City .....

MAIL COUPON TODAY

ORANGEBURG FIBRE PIPE

ORANGEBURG

WITH 50 YEARS EXPERIENCE IN THE MANUFACTURE OF NON-METALLIC CONDUIT AND PIPE, SERVES THE POWER AND LIGHT, TELEPHONE, GENERAL CONSTRUCTION, CHEMICAL, PETROLEUM, PLUMBING AND BUILDING SUPPLY FIELDS WITH ELECTRICAL FIBRE CONDUIT . . . ELECTRICAL UNDERFLOOR DUCT SYSTEMS . . . AND FIBRE PIPE FOR NON-PRESSURE USES.

Comments . . . About Your Catalog Material

"...we think it is a wonderful addition to your service that you provide a Supplement to your DOMESTIC ENGINEERING CATALOG DIRECTORY showing the manufacturers and the items they are in a position to furnish, and substitute items for the present line of plumbers' brass goods which are now unavailable."

CLEVELAND, OHIO

"We just recently placed an order with [redacted] Co. for 878 closet seats which were listed in your 1943 DOMESTIC ENGINEERING CATALOG DIRECTORY."

FLINT, MICH.

"Our only hope is that in the future you may have even more manufacturers' complete catalogs in your Directory."

MANCHESTER, N. H.

"This book is used many times each day and it would be a difficult matter to conduct our business without it."

DETROIT, MICH.

"We find DOMESTIC ENGINEERING CATALOG DIRECTORY the best and most practical source of information in our buying guides."

JOPLIN, MO.

The above comments are typical of the many hundreds of letters received from Wholesalers, Engineers, Government Buyers and Specifiers who are daily users of DOMESTIC ENGINEERING CATALOG DIRECTORY.

AS A WAR-TIME MANUFACTURER . . .

Every comment quoted above should have a direct appeal to you to keep your product information up-to-date and your current catalog material in the hands of those buyers and specifiers who are accustomed to purchase and specify from manufacturers' catalogs prepared by the Catalog Staff of DOMESTIC ENGINEERING CATALOG DIRECTORY.

Yes, DOMESTIC ENGINEERING CATALOG DIRECTORY'S Staff of Catalog Experts are in position to relieve you of all extra time-consuming work and thought needed to prepare and keep up-to-date the purchasing and specifying data on products that you are now manufacturing under war-time restrictions. The Catalog Services of DOMESTIC ENGINEERING CATALOG DIRECTORY give you a definite assurance of printing and distribution of your current catalog material. Once our Catalog Department has your OK to assist you in compiling your complete product information you can consider your catalog problem solved.

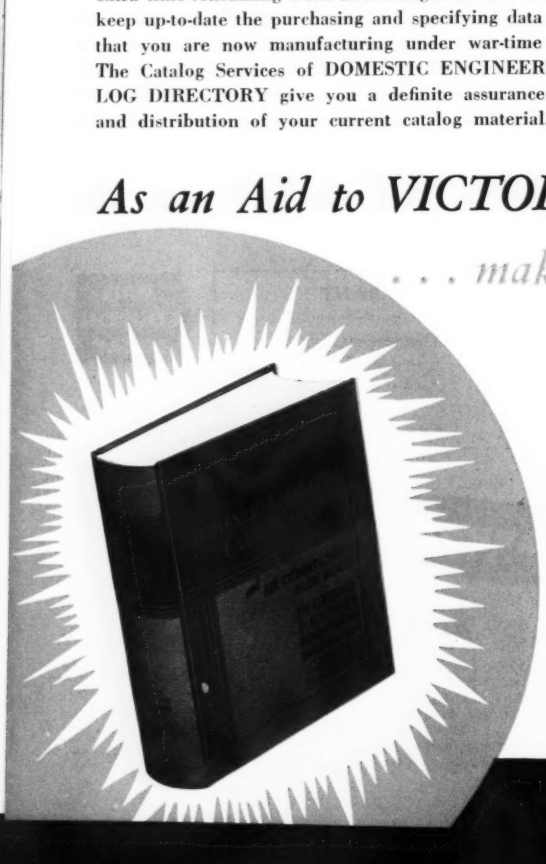
AND FURTHERMORE . . . as will be noted in one of the comments above, a Government Buyer states: *"Our only hope is that in the future you may have even more Manufacturers' complete catalogs in your Directory."*

Without exception, these Government men want as much detailed technical and specificational data as can be made available to them. Others, not in the Government service, but actively engaged in handling Government business, frequently make this same request. Because time does not permit their engaging in lengthy correspondence relative to products they require, they want to buy and specify directly from Catalog pages.

As an Aid to VICTORY and POST-WAR RECOVERY

. . . make YOUR PRODUCTS

Easy to Buy and Specify



Manufacturers whose product information will be made *"Easy to Buy and Specify"* through the medium of the 1943 Mid-Year SUPPLEMENT and 1944 DOMESTIC ENGINEERING CATALOG DIRECTORY will earn the gratitude of Buyers and Specifiers if they will incorporate complete specification and technical data in their Catalog pages. Our facilities are available to serve you in making your catalog material of greatest benefit to essential Buyers and Specifiers who are doing their part to speed VICTORY and stabilize POST-WAR RECOVERY. Address your inquiries to DOMESTIC ENGINEERING CATALOG DIRECTORY, 1900 Prairie Ave., Chicago, Ill.

DOMESTIC ENGINEERING CATALOG DIRECTORY

1900 Prairie Ave., Chicago, Illinois

Washington News . . . . .

Concentration Out

Washington, D. C., April 14.—Published reports that the War Production Board is proceeding upon a nationwide plan for concentration of industry were denied today by Chairman Donald M. Nelson.

The reports, Mr. Nelson said, apparently were based upon two confidential memoranda circulated to the WPB Committee on Concentration of Production, one dated November 19, 1942, and the second January 19, 1943. The list of industries carried in the stories was contained in the 1943 report to this Committee which went out of existence some three months ago, and does not in any sense constitute a list of industries for which WPB is now considering a concentration program.

Soil Pipe—2

Washington, D. C., April 8.—There will be no relaxation in restrictions on the manufacture of cast iron soil pipe, it was emphasized at a meeting of the Cast Iron Soil Pipe and Fitting Industry Advisory Committee in Washington. The announcement was made to correct what appeared to be a general impression in the industry that pig iron and scrap were in plentiful supply.

Suggestions were made that pipe and fittings and job castings be segregated when reporting inventories so that a clearer picture of Victory Pipe sales might be shown. Efforts are being made to assist producers in disposing of existing stocks of extra heavy pipe and fittings.

Washington, D. C., April 20.—"The installation of cast iron soil pipe and fittings for sanitary drains in and under buildings should be continued as long as the supply of raw materials from which these products are manufactured is available," Joseph F. Wilber, director of the Plumbing and Heating Division, said today.

While it is true that the supply of pig iron and scrap iron is limited, the situation had not yet reached the point where restrictions upon the use of cast iron soil pipe for this purpose are necessary, Mr. Wilber added.

Grate Prices

Washington, D. C., April 17.—Specific dollars-and-cents ceilings for recently developed rectangular conversion grates to be used in converting rectangular heating plants from oil to coal were announced by the Office of Price Administration.

The ceilings established for the new special rectangular units vary from $54.95 to $107.95, depending upon the grate area and are listed for each producer in a table of prices by Amendment No. 2 to Regulation 236, effective April 23, 1943.

PD-1A Processing

Washington, D. C.—Business firms and individuals who normally apply for priority assistance on Form PD-1A are warned by War Production Board officials that, beginning April 15, only applications made on the revised version of oil traffic figures through March, 1944, will be considered.

News of the Stoker Situation

The organization of an Anthracite Section in the Stoker Manufacturers Assn. was officially completed at a meeting of anthracite stoker manufacturers in New York City recently.

Executives in attendance at the meeting represented practically all manufacturers of hard coal burners, and elected Milton A. Young, Catskill, New York, as chairman of the Anthracite Section. Mr. Young is sales manager of the Catskill Metal Works, Inc.

Three standing committees were named to handle problems and subjects dealing with anthracite stoker equipment. Frederick Kalmbach, president, General Machine Co., Emmaus, Pa., was appointed chairman of a Development Committee; Harold A. Cooper, Cooper & Cooper, Inc., Pittsfield, Mass., will act as chairman of the Trade Relations Committee, and Adair Rogers, president, Stewart-Rogers, Inc., Philadelphia, was named as chairman of the Engineering Committee.

This section will devote its attention to problems and subjects concerning anthracite stoker equipment.

The eight member companies, all exclusive manufacturers of anthracite stokers in the East, are as follows: Allen Stoker Company, Allentown, Pa.; Cooper & Cooper, Inc., Pittsfield, Mass.; Catskill Metal Works, Inc., Catskill, N. Y.; Electric Furnace Man, Inc., Emmaus, Pa.; Fuel Savers, Inc., Harrisburg, Pa.; Hershey Machine and Foundry Co., Manheim, Pa.; Newton Supply Company, Philadelphia, Pa.; and Stewart-Rogers, Inc., Philadelphia, Pa.

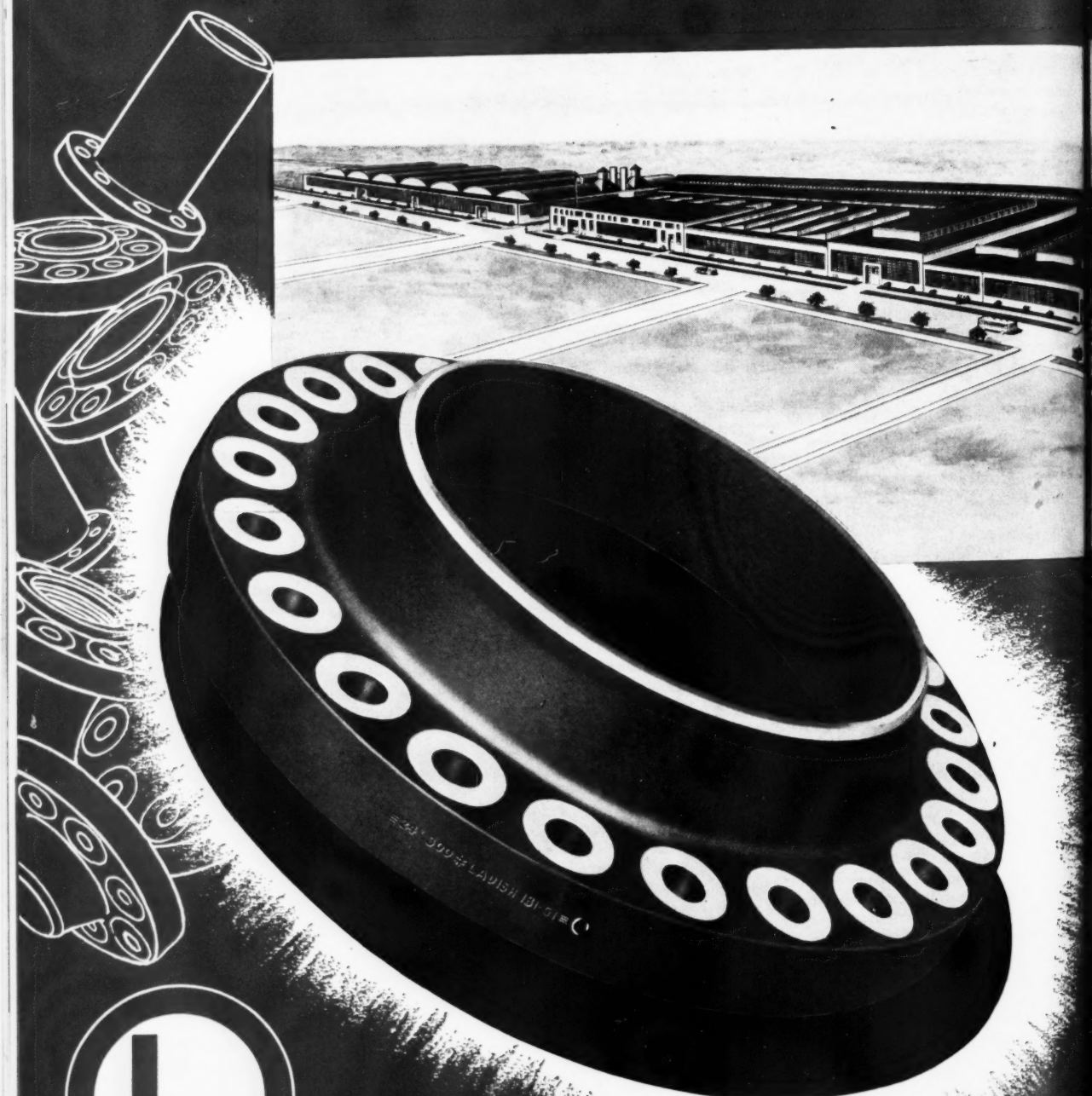
Postwar Planning

Organization of a postwar planning committee for the stoker manufacturing industry has been announced by J. M. McClintock, president of the Stoker Manufacturers' Assn., following the annual meeting of the association's executive committee in Chicago recently. The executive group unanimously approved the formation of this committee, the membership of which will consist of the chairmen of each of the Association's standing committees. In this way, every phase of the industry's problems as related to both the war effort and postwar plans will be taken into consideration. Mr. McClintock will head the new postwar stoker committee.

In making the announcement, Mr. McClintock said: "The time appears to be approaching when our industry, in common with other sections of the heating industry and the coal industry, needs to seriously consider general and nation-wide problems which will be brought about when this country wins the war. Our postwar planning committee, representing every phase of the stoker industry, has already conferred with representatives of other industries as to postwar heating and fuel requirements. We are convinced that the 'battle of the fuels' will be renewed with greater intensity when the war is over and mechanical and automatic coal burning equipment manufacturers will be in the very thick of the struggle.

"Individual stoker manufacturers have their own postwar planning already cut out for them, but we have learned through years of experience—through good times and bad—through peace times and war—that cooperative, constructive and aggressive planning by the industry, pays dividends in more ways than one. Government agencies by the score are giving great consideration to postwar plans in housing, heating, city planning and other phases involving every feature of American economic life, and industry must do its own planning and act accordingly or it will suffer from Government competition in many forms in postwar years."

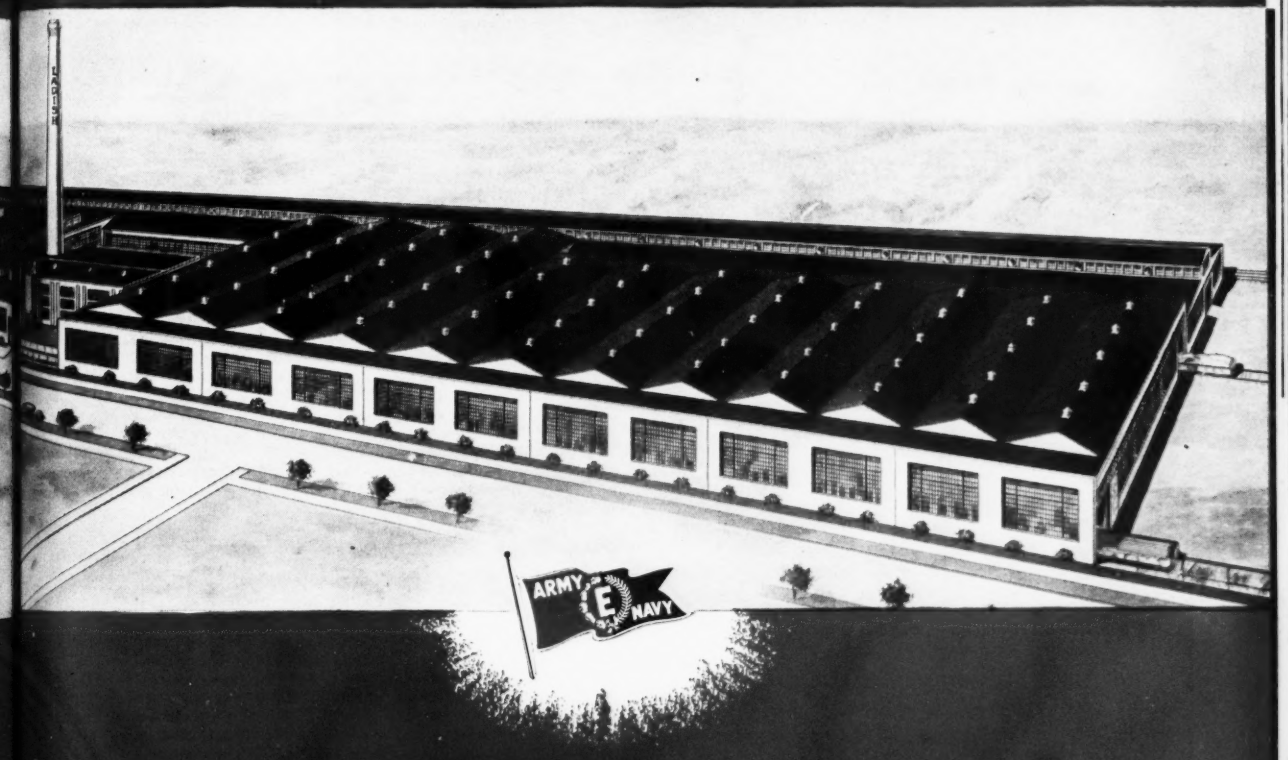
Effective-



FLANGE DIVISION

TO MARK PROGRESS

July 15th



• After many years of marketing its forged steel flanges through one exclusive sales organization, AMERICA'S LARGEST PRODUCER OF FORGED STEEL FLANGES will sell through its own sales and distributing organization, beginning July 15, 1943.

•

DISTRIBUTORS . . . Limited territories will be available.

LADISH DROP FORGE CO.

PLANT AND GENERAL OFFICES: CUDAHY, WISCONSIN

MILWAUKEE SUBURB

SO WHAT?

Why should you be interested in the fact that Schaible is engaged in war work? Hell, practically everybody is in war work or out of business and it all adds up to tough going for the plumber.

Our industry has taken a bad beating by the war. But it's not all bad.

We, like many others, are working to new tolerances, performing operations we never attempted before. From these rigid demands, we're learning — getting new ideas that will be translated into tomorrow's peacetime products.

Let's keep on doing what we can with what we have. Make the best of substitute materials. Buy War Bonds to the limit. Hold on — there's a great day ahead.

(Boiler drains, stops and wastes, stops and sill cocks can be furnished with a priority of AA5 or better.)

Available Now

V 1105 Tray Plug — Steel non-critical stopper 2½"; 4" tailpiece with galvanized finish.

V 1106 Strainer — Steel 2½"; 9" tailpiece galvanized finish.

V 935 Deck Type Faucet — Plastic escutcheon and handles, steel spout, cast iron body — brass stem and seats.

Conforms to F. P. H. A. Specifications.

SCHAIBLE

...COMPLETE LINE OF APPROVED PLUMBING ACCESSORIES FOR WAR-TIME NEEDS.

1086 SUMMER ST., CINCINNATI, OHIO

Alternate Materials . .

(Continued from Page 55)

my standard of doing things?

The consumer has read a lot about the wonders of our postwar world. At first he will probably buy anything so long as it's different and it's decorative. But, in due time, he will get much more canny in his buying. That's where the test of time comes into the picture. The newer materials must be able to take it and come up for more.

To summarize, these are the materials most likely to remain in our postwar industry: They must be as good or better than the material they replace—better for the manufacturer, the contractor and the consumer. They must cost less, they must last and they must lend themselves to easier installation. If they do not meet these tests then they must have other desirable qualities peculiar to themselves which make them a "quality" material in the role they are to fill.

Replacement of products made from those materials which do not stand up will constitute one of the "big" jobs for contractors at the war's end. Probably, by that time, many materials will have proved themselves while others will have "given up the ghost" or will have started to crack under constant, severe usage. The war is a proving ground for civilian as well as military equipment.

Priority Orders . .

(Continued from Page 49)

There are at least six orders or revisions of existing orders currently in preparation or contemplated by the Plumbing and Heating Division of WPB. Among these is the major order L-79 which is under revision and is expected to be issued after the amended P-84.

The Plumbing and Heating Division is currently working on a program which would allocate definite amounts of material for various types of plumbing and heating equipment. This would include allocations for repair and replacement equipment. This move is in line with recent WPB policy to establish a level for the present civilian economy and assure materials, production, and manpower at that level.

Pentagon . .

(Continued from Page 57)

down to –10 degrees) supply and storage lockers, garbage receiving and loading areas.

Other special areas include the following: Auditorium seating 280; Photographic laboratory for still and moving pictures, including five projector rooms; 12,000 sq ft; complete dispensary, 30,000 sq ft reproduction unit, for printing, mimeographing, photostating, blue printing, photographic reproductions, 150,000 sq ft; building maintenance storage and repair shops for plumbing, carpentry, paint and electrical work, 73,000 sq ft.

Connected with The Pentagon by a 10 ft x 10 ft tunnel 1200 ft long is a three-story boiler and refrigerating plant 400 ft long and 100 ft wide. Occupying one half of the building is a five-boiler heating plant. The other half houses what is believed to be the largest single refrigerating plant in the world.

The heating unit consists of five bent-tube, 3-drum boilers with automatic underfeed stokers. Each boiler has a continuous load capacity of 80,000 lb per hour at 125 lb pressure. Boilers have a design pressure of 200 lb.

All boilers are under full automatic control of pneumatic type controls. All auxiliaries are turbine driven with the exception of stokers, and the forced and induced draft fans on one boiler which have both turbines and motors. Four boiler feed pumps of 300 gpm capacity are installed, three turbine driven and one motor driven.

The plant operates with a condensate return of 85 per cent to 90 per cent, and boilers are equipped with continuous blowdown and deaerating heaters. A small zeolite water softener is provided to take care of makeup, and the water softener is supplemented by metaphosphate and sodium sulphate.

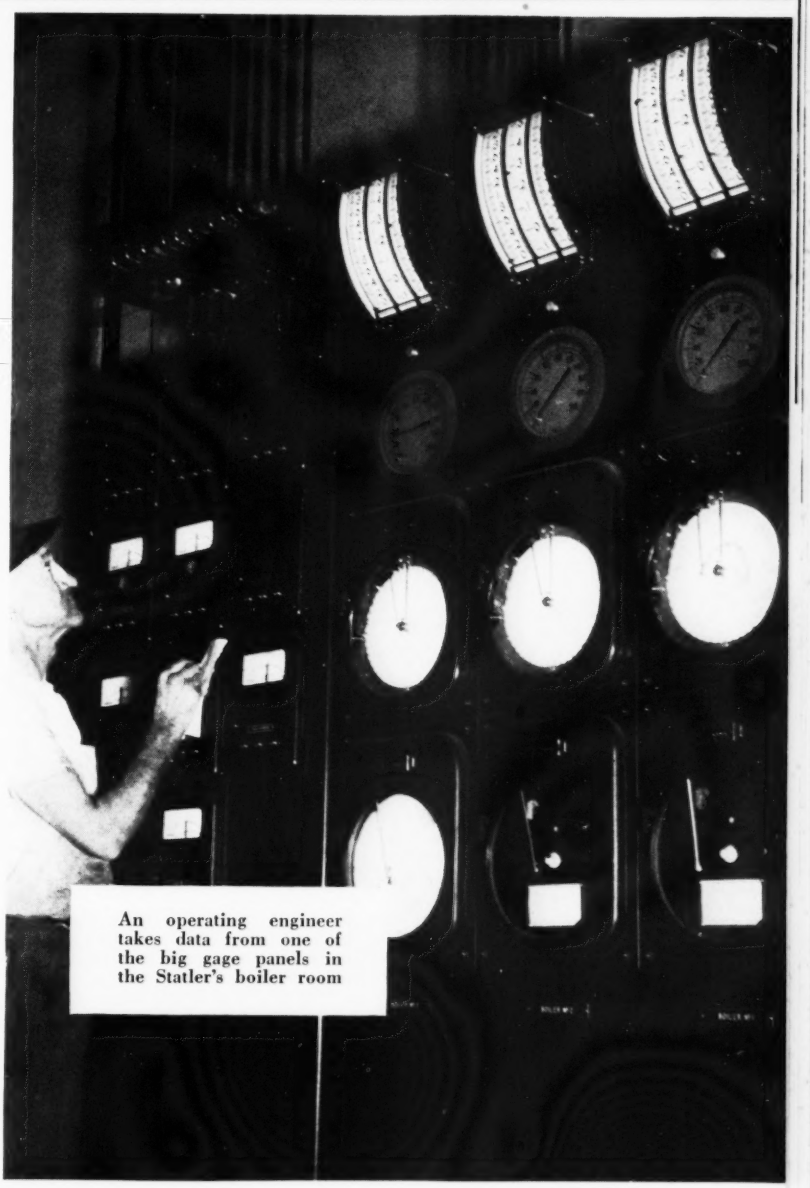
West Virginia bituminous coal, 1½-inch nut and slack, is fed to stokers through automatic scales by two pivoted bucket conveyors from overhead bunkers having a capacity of 1100 tons. The storage yard capacity is 4000 tons.

Both forced and induced draft fans are used; flues are equipped for either manual or full automatic control, and ash eliminators, or collectors, remove 85 per cent of all solids from smoke.

AUTOMATIC HEAT and AIR CONDITIONING Section

One of the Best . . .

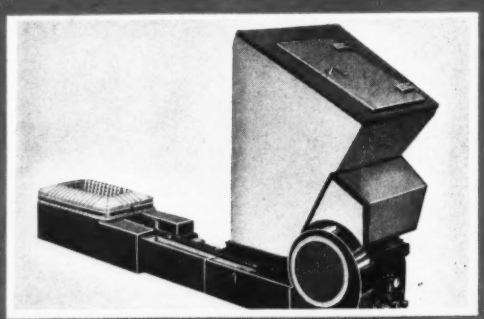
. . . air conditioning installations ever put into a hotel protects the comfort of Washington Statler guests. Individual temperature control in rooms; flexible enough to meet the changing weather and shifting crowds, this job is good and it's . . .

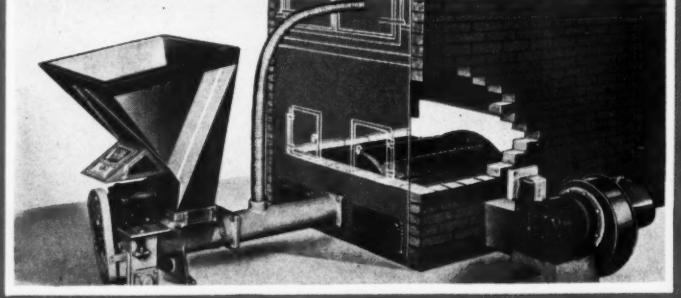


An operating engineer takes data from one of the big gage panels in the Statler's boiler room

. . . . . One of the Last

We Have Commercial FIRE TENDER Stokers Ready For DELIVERY NOW!





It is vitally necessary for industry to convert from oil to coal. They *must* do it! They must do it fast! Sell *Fire Tenders* . . . and you'll sell a proved, reliable and efficient stoker which has been a leader in industrial and commercial plants since 1927. Back of you will be a company rated among the highest in the country for 45 years. The FIRE TENDER stoker line is an efficient and complete line. 10 sizes range from 70 lbs. to 750 lbs. per hour. Our production has been greatly stepped up to meet the W.P.B. demand for conversion from oil to coal. Don't delay! Conversions are being made rapidly all over the country. Each week you delay means much profitable business lost.

FIRE TENDER ADVANTAGES

Fire Tender Automatic Stokers have exclusive advantages unsurpassed by any other stoker on the market. Deep, narrow retorts with high tuyeres automatically burn a wider variety of available coal. TWO UNIT models are available for boilers with small frontal space. FIRE TENDER transmissions are unequalled for simplicity of construction. They contain only 4 gears, always in mesh and with no gear shift, no shear-pin. Patented coal feed control permits 13 feeding speeds. They are silent, reliable, fool-proof and when correctly installed, you know that servicing losses will be cut to a minimum. Sell a PROVED FIRE TENDER . . . and keep the full profits of your original sale.

ARMY E NAVY

Write, Wire or Phone at Our Expense TODAY!

STOKER MANUFACTURERS ASSOCIATION SMA

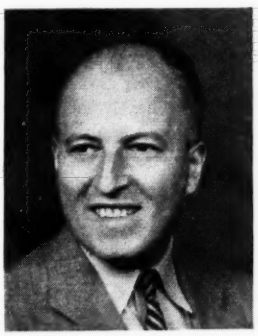
HOLCOMB & HOKE MFG. CO.

INDIANAPOLIS INDIANA

STOKERS...

A Job to Be Done

It has been continually urged by the Government, the coal producers and sellers, and the transportation companies, that consumers of coal get in their supplies before the big rush starts



Walter Sormane

in the fall and winter. In this article, Walter Sormane, sales manager, Schwitzer-Cummins Company, speaks up for and to the stoker dealers and manufacturers. Mr. Sormane points out how these members of our industry can be of utmost service to the country, the stoker buyer and to themselves simply by urging that the consumer decide upon his stoker purchase now so that he will be able to lay in the proper kind and amount of coal.—Ed.

IT looks as if the stoker industry, particularly those within it who sell and install, are to be put to another important conservation task in which the stoker can play a very important part. There is evidence that another conservation program is to be put in motion by the Government and it is one that's right down our alley. We understand that our Government will soon launch two intensive campaigns on fuel conservation and on the early storage of coal. We can do as good a job again as we have in the conservation of oil.

We do not have national figures at hand on the amount of fuel oil that has been saved by stokers, but in the case of our own make it is over twenty-two million gallons yearly consumption saved in eight months' time. When we use that figure as a yardstick for the whole industry, we can get some slant on the big job that has been done nationally. And it can give us a pretty good picture of what we as an industry can do in the proposed new conservation program, if we go to work as we did before and team our efforts with the country's need to save coal and with the national warnings and publicity that will certainly appear in support of those needs.

The new conservation programs will undoubtedly be announced quickly. The objectives are vital, not only for the saving of coal for the expanding programs of war industry, but for the relief of transportation which is becoming heavily overloaded. Only recently there has appeared in the press a notice of a three-day embargo on shipments east from the west coast to relieve the shortage of cars by returning an accumulation of empties on the west coast. Coal cars probably figure in a very minor way, if at all, in this, but it is a strong signal of what is coming, and although the means that will be recommended by which coal can be saved are not set forth, one will certainly be the use of stokers in converting from oil, instead of hand-firing.*

Figures released by the Stoker Manufacturers' Assn. on how stokers can conserve coal, and which are being used by interested Government agencies, run about like this: 1,000 stokers of 391 lb average capacity per hour could, based on records, save 80,000 tons of coal yearly, and put into terms of a conservation of railroad car movements, means more than 2,000 cars yearly that don't have to be hauled around for a trip from the mines and back, and that's only for 1,000 stokers. So it is easy to see how the stoker industry can go to war some more by stepping into another important national conservation program.

This situation is clearly one for the very near future, so it is time to bring up again the necessity of doing all we can as early as we can. The present heating season is still on, but it is only a few months before the next one. We will still be called on by the War Production Board to find the buyers who must convert, to sell them and see that they get their stokers installed, and this is just as it should be. But if, as an industry we are going to do the program a real service, we will have to make hay in the early months of this year, sell stokers as early as we can and arrange for their earliest possible installation. And this is not only necessary to the stoker end of this program but it is an obligation that we owe to the buyer, whether he knows it or not, to get him settled early in his plans this year so that he can purchase and store the kind of coal that he is eventually going to use.

We are afraid there is going to be a shortage of competent people to install stokers by fall and we are morally certain that there will not be enough to take care of the demands in proper time, if the people who should buy stokers to conserve both oil and coal are

(Continued on Page 115)

Conservation of coal, as well as of other fuels, must be made in the coming heating season. Our industry can do its part to help others conserve

The Last Word in
HEATING and AIR

"IF you don't like Washington weather, wait five minutes!"

This subtly descriptive comment, popularly attributed to the late Will Rogers, must indeed have served as a motto for engineers and architects who planned the heating, ventilating, and air conditioning systems of the new Statler hotel in the Nation's capital.

Challenged by Washington's widely known but unpredictable whims of temperature and humidity, all the interested engineering staffs have combined forces to produce unvarying indoor weather, despite outdoor conditions that vary by the hour as well as by the season.

The emphasis placed by Statler management upon air conditioning for its Washington hostelry is revealed by a comparison of relative costs of the District of Columbia mechanical plant installation and those of older Statler hotels. Costs of installing heating, ventilating, air conditioning and other mechanical units for other hotels of the Statler group average 25 per cent of the cost of the hotel building. In its Washington plant, Statler expenditures averaged 40 per cent for mechancial facilities.

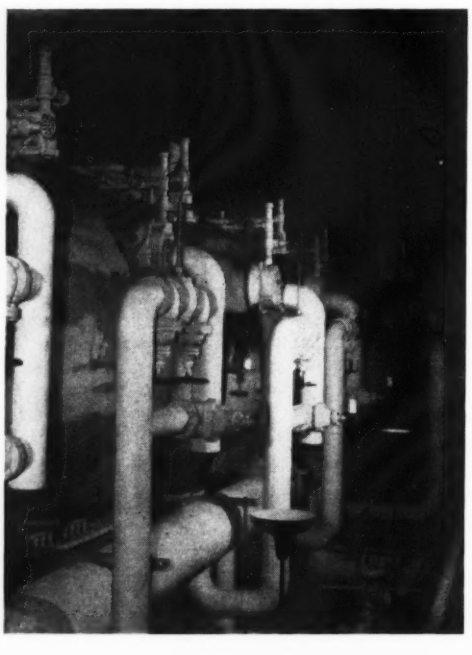


Photo at left, top, shows hot water tanks—one storing soft water for the hotel laundry, two providing raw water for guest use, one storing soft water for kitchen use and fifth with raw water for the kitchen

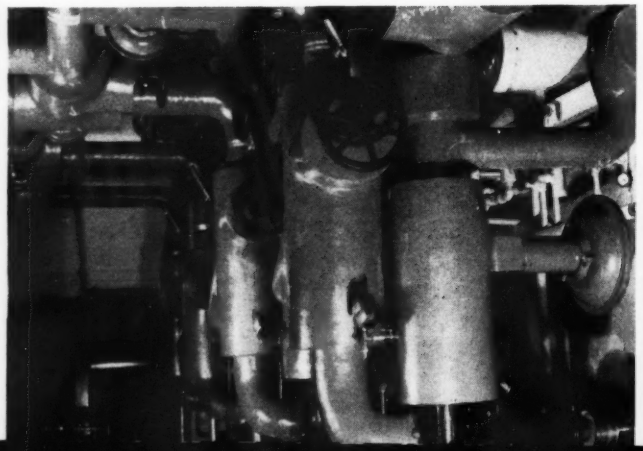
The photograph at the left below shows a glimpse of the piping arrangement and the heat exchangers on the zoning pumps for guest room conditioning

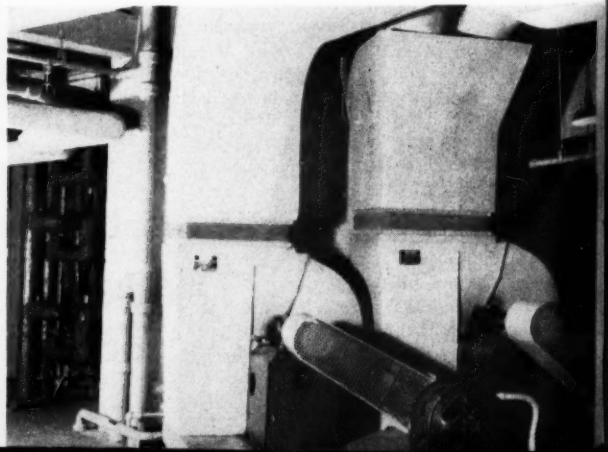
Picture at right below shows air conditioning fans serving guest rooms; these fans are located on the 15th floor of the hotel. They are mounted in banks of three on a concrete base floating on steel springs

Although the hotel has been officially opened only since January 18, the new air conditioning system has already been subjected to many of the contrasting conditions its design anticipated. The closing week in March, for example, sent thermometers up to 82 degrees, while the first week in April lowered the mercury to 19 degrees. Moisture and humidity conditions were similarly varied, ranging from dry and blustery days to snow storms and thunder showers.

Statler engineers have welcomed these opportunities to preview the performance of their new plant under all-season conditions. To date, each new test has produced the intended results—comfort for all who live, play or work within the hotel; maximum efficiency for operating equipment and personnel.

To the experienced observer, the forethought placed upon air conditioning is apparent the moment one enters the hotel. First noted are vast expanses of glass fronting on Sixteenth Street—"The Street of Presidents." This





CONDITIONING

Absolute control of indoor weather in an always-changeable climate put this air conditioning and heating system in Washington, D.C. Statler Hotel on the top rung of outstanding installations

decorative glazing is cleared of frost in winter and of steam during high-humidity periods by ducts which automatically select and deliver either warm, or cool air, as the occasion may require. Three air conditioning blowers circulating 8900 cfm with a load of 13 tons, service the glass area.

The main floor lobby is of the utility type, ample in size for guest requirements, but designed primarily to facilitate traffic between public rooms, elevators, lobby shops and entrances through a spacious main corridor and an intersecting service corridor. Maintaining identical air conditions in the lobby-corridor and the various rooms it serves requires a plant of unusual versatility.

At the cocktail hour, for example, the lounge is filled to capacity with uniforms, business suits and spring frocks, while the adjoining main dining room, the Embassy Room, may be serving but a handful of early diners. Under such a condition it is conceivable that the Embassy Room may require more heat than the lounge, where it is likely that less re-circulation of air will be permissible. To provide the additional heat, booster heaters, automatically controlled have been installed in ducts leading to both Embassy Room and Lounge. When conditions are reversed, with the Embassy Room crowded and the Lounge less patronized, the booster heaters serve the Lounge duct.

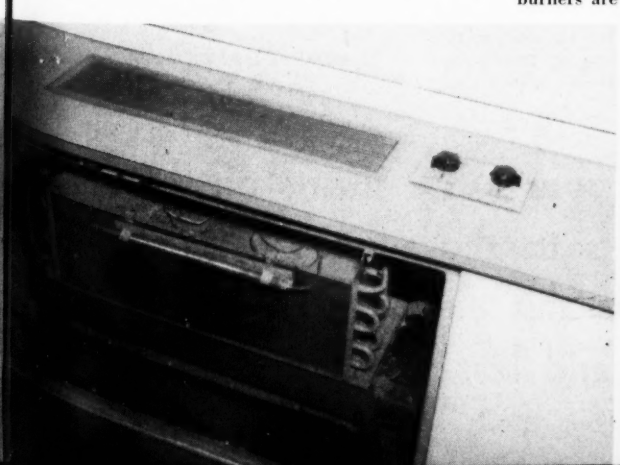
The exhaust system, pneumatically controlled, is normally set to recirculate 50 per cent of the air used for cooling, and to provide a complete change of heated air. Separate exhaust and recirculating fans in public spaces automatically maintain these ratios of circulation in the hotel.

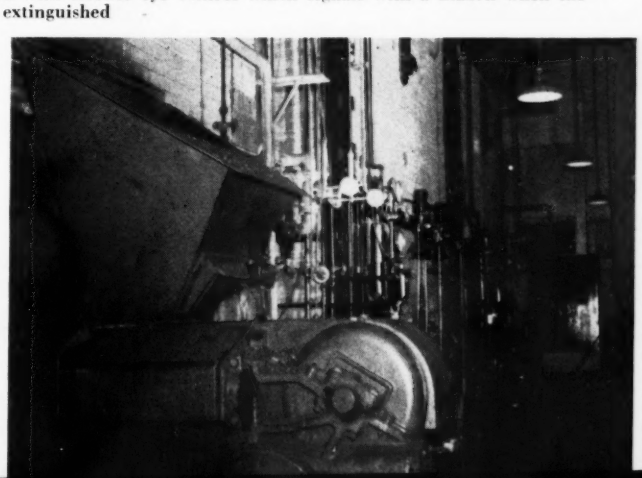
When the guest leaves the lobby or any of the public spaces and heads for his own room, he finds that provisions for his comfort have been continued. Fully automatic elevators deliver him to an air-conditined corridor, and in his own room he finds that his room-conditioning unit has been provided with fingertip controls permitting him to temper the air to his own individual requirements.

Statler's Washington air conditioning system in guest rooms intends to solve individually the between-season problem wherein the frail old lady in Room 911 calls for heat, while the florid gentleman in 909 complains his room is too warm.

(Details of the heating and air conditioning systems will appear in the June issue, Domestic Engineering.)

Picture at the left below shows a guest room unit air conditioner; the guest need only adjust the knobs shown on top of the enclosure in order to get just the type of indoor weather he wants. Other photograph is a general view of the boiler room; stoker-fired boiler is in the foreground. Two oil-burning boilers are equipped with electric eye control which signals with a klaxon when the burners are extinguished





STOKERS...

Directing the Sales Effort

The following article, written by Claude A. Potts, vice president, U. S. Machine Corp., carries on from the March issue of Domestic Engineering. In that issue we presented a letter from

Claude A. Potts

Joseph F. Wilber, director, Plumbing and Heating Division, WPB, in which Mr. Wilber listed the criteria set up by that division upon which PD-668 applications are judged. In the same general article on stoker sales, Domestic Engineering published a completely filled-out sample form PD-668 and suggested that this model be followed by heating contractors. The article published below explains more fully, and with emphasis upon reasons, the method of selecting logical stoker prospects in the light of their importance in the war.—Ed.

EVERY worker and every factory, including materials and machines, is now a part of the war program. Many people feel that unless they are working directly in producing materials which will be used by the armed forces, they are not assisting to the best of their ability in the war effort. This is not necessarily true. Some of us must raise livestock, grain and food stuffs which are needed by our own army as well as our allies.

Likewise, there are many other commodities essential to the war effort which are not sold directly for use by our armed forces. A good example of this would be stokers. Many plants who are presently using fuels which are very critical are finding it necessary to convert their heating plant to coal. It is not possible to hand-fire many of these plants and get the required steam or heat, either quantity or quality. For such installations, if they are important to the war effort, the War Production Board will usually approve the installation of a stoker.

Because the War Production Board is playing a very important and worthwhile part in our war effort, we should do everything possible to cooperate 100 per cent with this agency. One of the things that we can do is to direct our sales efforts to those people who must of necessity convert to coal from oil or gas, and when the heating plants are essential to the war effort. Applications submitted by individuals or firms who wish to convert should be properly completed to save time in processing by the WPB offices. Since this is one of the ways that we can cooperate with the WPB in the war effort, I would like to discuss these subjects a little more in detail.

It is not possible to make an accurate list of heating plants that should or should not be converted. However, it is not difficult to decide generally what type of plants are important to the war effort. For example, I would say the following plants are very essential to the war effort and should not be without heat.

Plants engaged 100 per cent in producing war materials; plants producing food stuffs; buildings housing fire departments and police departments; hospitals; transportation facilities; utility and communication facilities.

Next in importance I would classify the following types of buildings or plants.

Apartment houses; schools; public buildings; stores selling essential merchandise; manufacturers of essential civilian goods.

Next in importance I would place buildings of the following types:

Churches; theaters; garages; manufacturers of non-essential goods.

We can classify other buildings and plants as being in a less essential or even non-essential group so far as the war effort is concerned. Such a group would be:

Private clubs; pool r o o m s ; night clubs; greenhouses growing flowers; retail stores of non-essential commodities.

The above examples are given as a guide and not as an official list of plants or firms who can get stoker applications approved. The decision on approvals naturally rests with the War Production Board. Certainly we should direct our efforts in selling to the plants who are definitely most important to the war effort.

Because all materials and production facilities are critical, the War Production Board wants plants that can be hand-fired satisfactorily to be hand-fired. There are thousands of installations where hand-firing will not be satisfactory. For instance, any one of the following reasons might prevail.

1. Grates not available for converting to hand-firing.
2. Physical location of boiler makes

(Continued on Page 112)

Confine your sales efforts on the sale of stokers to those important to the war, says this executive. He lists important and less important objectives

DEALERS SAY: —

PENN CONTROLS MEAN GOOD WILL TODAY — INCREASED SALES TOMORROW

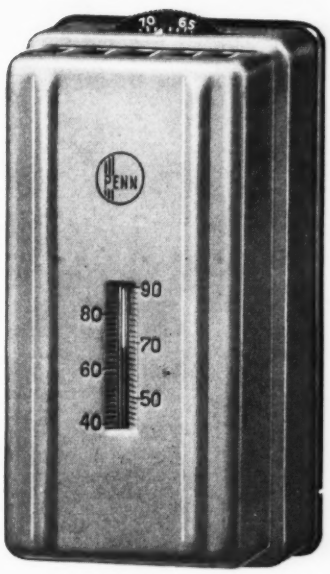
More than ever before, good will is the foundation of good business.

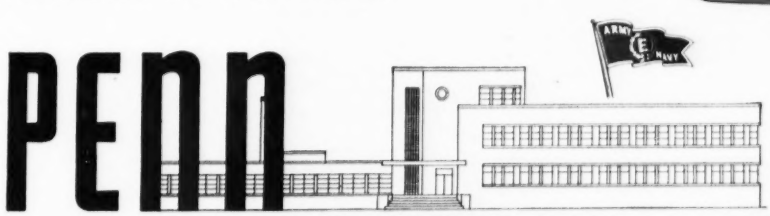
Under the stress and restrictions of war times, good will is harder to maintain—but automatic heating dealers who foresee the tremendous opportunities in the post-war world are doing everything possible to keep customers sold.

Penn automatic heating controls are doing their part in this important job. They are serving *dependably,* at a time when dependability is appreciated above all other qualities . . . keeping users sold . . . creating wider acceptance for the automatic heating which will be available when Victory is won.

Penn Temtrol, the heat anticipating thermostat, leads the Penn line of automatic controls for all fuels and all systems . . . a *complete line* which will meet every sales opportunity in the post-war market. Temtrol holds temperature closely to selected level, avoids zig-zag heating, and helps conserve fuel to make the allotted ration go further. *Penn Electric Switch Co., Goshen, Ind.*

In Canada: Powerlite Devices, Inc., Toronto, Ont.





PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

DOLAN *and* OLSON

Trouble, trouble, boil and bubble out of the ground. But where does the water come from on these three trouble jobs?

IT was one of those cold, wet, early spring days and me and Hank were sitting in the office, just sort of marking time, because the telephone company must have cut off our service. Anyhow nobody was calling, and the front door might just as well have been locked and bolted because no one seemed to want to get in.

We had talked about one thing and another, just sort of aimless like because neither of us had anything in particular to do and nowhere in particular to go. 'Course we could have hiked out in the rain and made a call or two, but making calls in rainy weather finds too many people feeling just like we did. It's a whole lot like getting outdoors and trying to spread grass seed when the wind is whooping it along at 40 miles an hour. The grass seed will probably do somebody some good, but that somebody may be forty miles away.

Finally, there was a lull in what little conversation there was and Hank piped up with this question, "Did I tell you about that leak on the Bryant job?" And of course he hadn't and I told him so and right away he started out with his usual preamble.

"That Bryant job was one for the books. Mrs. Bryant called up one day and said that she was having trouble keeping the house warm. Well they had only lived in the house a few weeks and I figured that perhaps they didnt know how to run the plant, so I hopped in the bus and rolled out there.

"Mrs. Bryant showed me a pool of water in the basement play room and it looked as if it might have come out of the vent valve at the end of the main, or it might have come up through the concrete floor—either seepage from outside or due to leak in the return line under the floor.

"Anyhow, her story was that the water would leave the boiler and the low water cut-out would shut off the oil burner. Then they would run more water into the boiler and the same thing would happen again—only more frequently as the days became colder, and it had shut off on a couple of cold nights and that wasnt so good either.

"So we looked and looked. . . . Did think we might have to tear up some perfectly good floor and look for a leak in the return, but it seemed like a crime to do that. Then the weather cleared and we had some nice warm days and the matter was forgotten, until one morning Mr. Bryant called up to say that he had finally found the leak.

"Well that made me feel like a nitwit. Call a so-called expert and then have the expert do nothing except look wise and make some random guesses, only to have the man that didn't even pretend to know anything at all about heating find the joker in the deck.

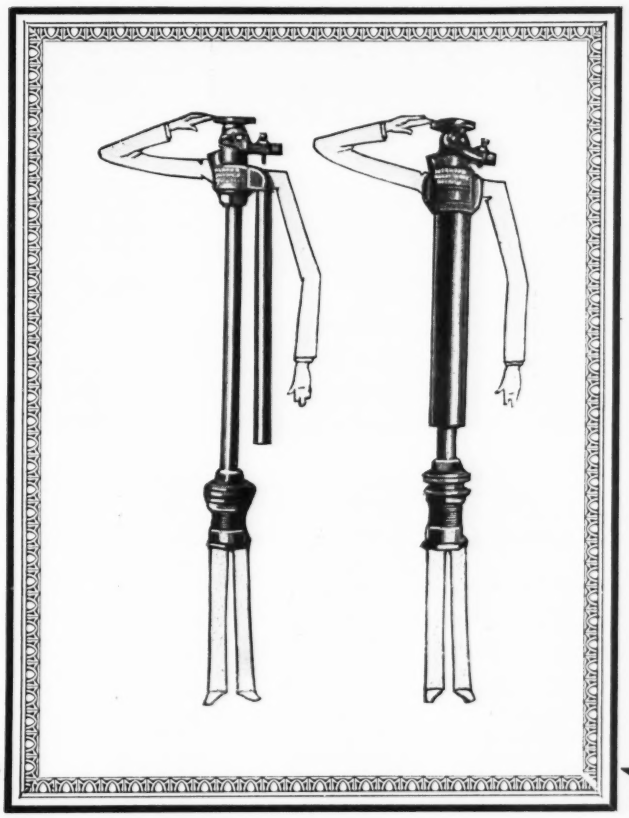
"It was some joker. The boiler was a very efficient boiler, designed for oil burning, and here is what that owner found to his sorrow: The bottom plate of the boiler had been leaking, just a little at a time, but gradually getting worse. When it leaked just a little, the heat from the boiler evaporated the water and the leak did not show, but finally the leak became greater and the boiler failed to evaporate the water and it ran on to the floor.

"Then he checked with the former owner and found that this same thing had occured the year before and the leak had been stopped by a job of welding. The new owner didn't fancy another welding job, with the possibility that another break might occur within a year or so, and accordingly ordered a new boiler."

Hank says that it was a nice experience, but the chances are that he will never have another break of that same

(Continued on Page 81)

A bunch of the boys were whooping it up
When the fireplace started to leak
A hunk of hose and a hole in the floor
Diverted a miniature creek



★★★★ ★★★★

SHERWOODS...

in the War Picture

The entire picture of this war is made up of an endless series of closely related parts! For instance, the brass that goes into SHERWOOD Ball Cocks is an essential part. Total war takes total production . . . and there is not enough brass produced to supply all war needs *and* civilian, too! One *must* wait . . . and that is where all of us in the plumbing industry fit into the war picture!

We'll wait patiently because we are all fighting to change this picture . . . to a more peaceful one . . . one in which SHERWOOD Ball Cocks can again resume their dependable, efficient service and possess the same high quality and the same outstanding advantages as before. Until that time impress the name *SHERWOOD* on your mind!

SHERWOOD BRASS WORKS
6331 East Jefferson Avenue, Detroit, Michigan

★★★ ★★★

SHERWOOD Ball Cocks

MER-COID

A SYMBOL OF DEPENDABILITY IN AUTOMATIC CONTROLS

There is no "absenteeism" about Mercoid Controls. Put them to work and they will stay on the job 24 hours a day, 7 days a week, 52 weeks a year, and go on from year to year without a break in the performance of the duty assigned to them.

That is why engineers are using Mercoid Controls on many critical war plant industrial applications where dependable and accurate control performance are essential requirements.

They will do the same job for you. It always pays to specify Mercoid Automatic Controls.

Write for catalog showing the complete line.

THE MERCOID CORPORATION
4201 Belmont Ave. Chicago, Ill.

MERCOID DA CONTROLS
They are adaptable to a wide range of applications and available in a variety of types for either pressure or temperature ★ Like all Mercoid Controls, they are equipped with corrosion-proof mercury switches, assuring perfect electrical contact under all operating conditions ★ The outside double adjustment is another distinguishing feature which simplifies the control setting. This is an important factor considering the newly trained workers in all plants ★ See catalog for further details.

Dolan and Olson

(Continued from Page 78)

kind, so what in heck good is the experience?

And then sometimes the joke is on the other fellow. Chap built a very nice home and had a nice little "rumpus" room in the basement complete with bar and fireplace. Had a little gathering of "the boys" one evening; the game was hot, but the room was cold, and so the host gathered a little kindling and bent over to start the fire and found a little pool of water in the bottom of the fireplace.

It was nice clean water. There was neither sewer nor water pipes on that side of the house, but just the same a nice little fountain of cold clear water. One of the boys had an idea and acted on it. Got the lawn hose, dropped one end in the bottom of the fireplace and the other end in the floor drain in the laundry room and started a syphon. That did the trick. It kept the water level down. The boys had their fire and the game continued.

The next day they called the plumber to check up and it was found that the house had been built right close to the sidewalk and there was a water service pipe leading from the city main to the house next door, and this service line was pretty close to the chimney. This pipe had sprung a leak and the water had seeped through the ground and through the basement wall of the new house and into the fireplace so the neighbor had the job of making the necessary repairs.

The phone bell rang and for a long second neither of us moved because it had been so quiet for so long that we had forgotten that there was such a thing as a telephone bell or that we were supposed to service plumbing and heating equipment. Anyhow I got the receiver up to my ear just in time to hear some one say, "Jerry? This is Mac." Right away I knew what "Mac" it was.

"Remember that sewer that you replaced for me in 1921?"

I had to confess than I could not recall it right off hand, but he came back with this, "I have the bill right in front of me and it cost me $87.50 and now it's leaking."

Well, that had me stumped. I recalled that we had replaced the original sewer with cast iron soil pipe, with lead and oakum caulked joints. The pipe was at least seven feet below the surface of the ground, so I asked him how he knew that the sewer pipe was leaking, and he almost floored me with this reply, "The water is oozing right up through the ground just beyond the sidewalk and the boulevard is all wet!"

Not wanting to dash his ideas too hard, I asked if there was any water on the basement floor, or if there were any indications that the water was backing up in the laundry trays or floor drain or in the basement water closet, and he assured me that everything was as dry as a bone in the basement.

Then I explained that the basement floor was about five feet below the surface of the ground outside; that the sewer was under the floor and sloped towards the street to such an extent that it was twelve feet below the surface at the curb line, and that it seemed a bit unusual for the water to be rising higher than the pipe and up hill. It was evident to me that the leak must have been in the water service pipe from the city water main to the house, and to my next question he replied that he had noticed a sort of a noise in the pipes for several weeks, but had not paid any attention to it.

It finally dawned upon him that it was a water leak and not a sewer pipe trying to do an Old Faithful, and then he declared that he would phone the city water department and have them attend to the repairs. I almost broke his heart by telling him that it was up to him to keep that water service pipe in condition, because he owned all of that water service pipe from the main in the street right into his basement, and it was his job to keep it in working condition.

By that time he knew that the whole world was against him and he reckoned that he would not do anything at all about it and then the city would simply have to do it, and to that wonderful brain idea I countered with the reply that the city would send out a crew and they would dig down to the tap in the main, shut off the water, refill the hole, patch the pavement, and he would be without water until he saw fit to get a plumber to make the repairs, after first paying the city for all of their work.

He just boiled and refused to be convinced that I knew anything at all about the situation and said that he was going to call the city water department anyhow, and with that he banged down the receiver.

Evidently he did call the city water department, but he didn't call me and Hank again, because a few days after that I happened to pass his place and another plumber was on the job.

Just another case of first trying to hang something on some one and then being too small to admit the error after finding that he was in the wrong.

On such small incidents are business friendships broken.

Report on Fuel Oil Rationing . . . .

Washington, D. C.—Use of fuel oil for heat in the seventeen eastern states and the District of Columbia was cut to 60 per cent of normal during the six months from October 1 to March 31—the first winter of fuel oil rationing—the Office of Price Administration has reported.

These months comprise the period of heaviest fuel oil demand and consumption normally approximates 115,500,000 barrels.

"It can be fairly stated that fuel oil rationing during the past winter accomplished its major objectives," rationing officials asserted. "Despite the critical nature of the oil shortage, the civilian population received its minimum requirements and not a single plant producing essential war materials was seriously hindered by a lack of oil.

"The mounting demands of the military—greatly accentuated by the North African campaign—were fully met.

"We now have the experience of the past winter to draw upon in formulating next year's rationing procedure. It is our aim to eliminate, wherever we can, those features of the plan which the consumer, the industry or the local boards have found to be excessively time-consuming or troublesome."

Consumers in the East Coast states—the area of gravest shortage—originally received ration coupons entitling them to buy 99,978,000 barrels of oil for heating purposes during the twelve months from October 1, 1942, to September 30, 1943, officials stated. This rationed demand represented a reduction of about 38,000,000 barrels from normal annual consumption.

While these original rations meant a reduction in demand of about 233,000 barrels a day during the crucial months of January, February and March, the steady diminution in supplies during this period made further drastic cuts unavoidable. As a result, the values of the number 3 and number 4 coupons were reduced in the eastern states and demand cut an additional 4,200,000 barrels during these months.

"During January and February, rationing operations were on an uncomfortably slim margin of reserve. During those weeks a reduction of as little as 25,000 barrels a day in supplies of heating oil in the area would have meant severe suffering approaching actual catastrophe," officials asserted.

Even sharper cuts in household use of heating oil would have been necessary, if the heating allotments of non-residential buildings, such as office buildings, and theatres, had not been slashed an additional 25 per cent, reducing consumption of fuel oil by these users to 50 per cent of normal. The savings effected by this action were estimated at approximately 1,500,000 barrels during February and March.

Besides the cut in fuel oil use effected by rationing, OPA estimated that its conversion policy saved approximately 8,000,000 barrels of household heating oil in the Atlantic Coast region during the six month period. The rate of conversion under the OPA program has been steadily increasing since the beginning of the year.

Questions From Readers

Gas in Fireplace

(Continued from Page 64)

yellow one—develops exactly the same amount of heat. The introduction of the air into the gas gives a shorter flame and quicker combustion. The smaller flame giving off the same heat as the longer yellow flame will be at a higher temperature but actually will not produce any greater amount of heat than the yellow flame. The shorter flame and more intense heat is particularly desirable in the modern gas range where the bottoms of the cooking vessels come close to the gas fire.

• • •

Another From March

The following answer to the March Readers' Problem is included in this issue because of the unusually complete explanations and calculations which accompanied the solution. The answer to the April question will be found elsewhere in this section.

Before proceeding with the solution of the problem, it will be necessary to make certain interpretations and assumptions which are not definite or are not given in the problem.

While it is rather unusual for a heating plant to be designed for 65 degrees, and while the statement that the radiation is adequate to maintain 65 degrees when it is zero outside might indicate that it is of sufficient capacity to heat the room to more than 65 degrees, no definite data to the contrary is given and, therefore it will be assumed that the radiator is just sufficient to take care of a temperature differential of 65 degrees.

It will be assumed that the partition area is net and does not include the door area. It will also be assumed that the radiation is steam radiation operated at such a pressure as to have an output of 240 Btu per sq ft per hr when in a room maintained at 70 degrees.

The coefficient for the door is not given, therefore it will be assumed to be 1⅜ inches thick with a K value of .80. The surface coefficient for each face of the door will be taken as 1.65 since neither side is exposed to the weather. Therefore the coefficient for the door will be:

$$\frac{1}{\frac{2}{1.65}+\frac{1.375}{.80}} = .34$$

The heat gained by the unheated room from the heated parts of the house per degree differential is:

$144(.25) + 200(.34) + 16(.34) = 110$ Btu per hr.

With all parts of the house heated, there is no heat loss or gain between the room in question and the balance of the house since they are at the same temperature. Therefore the heat output of the radiator, when in the room at its design temperature, represents the heat loss from the room to the outside for a 65 degree differential.

The normal output of the radiator, being in a room temperature of 65 degrees, is: $1.045(240) = 250$ Btu per hr per sq ft.

Therefore the loss to the outside per degree differential is:

$$\frac{250(70)}{65} = 269 \text{ Btu per hr.}$$

As a first step, the problem will be solved in general terms, upon the basis that the building may be maintained below design temperature, in order to develop a general equation which can be used for any problem of this general type and to bring out a very interesting fact in connection with this particular type of problem

Let the various letters represent the following:

- A Outside temperature
- B Inside design temperature
- C Temperature at which the building is maintained
- D Difference between inside design temperature and inside maintained temperature
  Therefore: $D = (B - C)$ and $C = (B - D)$
- T Temperature of unoccupied room
- G Heat gained by unoccupied room from heated parts of the building per degree differential
- L Heat loss by unoccupied room to outside per degree differential

The unoccupied room will assume a temperature somewhere between the outside temperature and the temperature maintained in the heated portion of the house, such that the heat gained from the heated parts of the building will equal the heat loss to the outside

Therefore: $G(C - T) = L(T - A)$

Solving this equation: $T = \frac{GC + LA}{L + G}$

Substituting this value of T in the expression for heat loss from the room: $L(T - A)$ the expression becomes:

$$L\left(\frac{GC + LA}{L + G} - A\right) = L\left[\frac{G(C - A)}{L + G}\right]$$

But the loss from the room under design conditions is: $L(B - A)$.

Therefore the percent heat loss with the radiator cut off is:

$$L\left[\frac{G(C - A)}{L + G}\right] \times \left[\frac{1}{L(B - A)}\right] \times (100) = \frac{100G(C - A)}{(L + G)(B - A)}$$

The percentage of heat saving is:

$$100 - \left[\frac{100\ G(C - A)}{(L + G)(B - A)}\right] = 100\left[\frac{(L + G)(B - A) - G(C - A)}{(L + G)(B - A)}\right]$$

Substituting $C = (B - D)$ in the above expression.

$$100\left[\frac{(L + G)(B - A) - G(B - D - A)}{(L + G)(B - A)}\right]$$

$$= \frac{100}{L + G}\left[\frac{(L + G)(B - A) - G(B - A)}{(B - A)} + \frac{G(D)}{(B - A)}\right]$$

Substituting $(B - C)$ for D and clearing the expression, it will be found that the percentage of heat saved is:

$$\frac{100}{L + G}\left[L + \frac{G(B - C)}{(B - A)}\right]$$

The above is a general expression that can be used to solve any problem of this type. When the building is maintained at design temperature, $B = C$ and the last part of the expression becomes zero making the expression.

$$\frac{100\ (L)}{L + G}$$

(Continued on Page 111)

News of Contractors . . .

Va. Conclave

Harry G. Starr, chairman of the war emergency committee, American Institute of Wholesale Plumbing and Heating Supply Associations, told delegates to the Virginia Associated Plumbing and Heating Contractors, Inc., convention in Richmond, Va. that any business they do now must be for the army and navy, defense housing or civilian maintenance and repair. The twentieth annual conclave was held in Hotel John Marshall, April 19 and 20.

One subject Mr. Starr discussed related to the efforts the plumbing and heating industry has made to stress to WPB the fact that the wholesaler, the contractor and the manufacturer of plumbing fixtures were all one unified industry and not divided groups, to be dealt with individually.

George P. Nachman of Cleveland, president of the Heating, Piping and Air Conditioning Contractors National Assn., in discussing the activities of his group, said the lack of welders was one main worry. However, he said that there had been great efforts to eliminate this weakness by the opening of a training course for welders sponsored by the heating association.

Other speakers at the convention included Ray A. Ferguson, Chicago, secretary of the NAMP; Mrs. W. E. Miller, Washington, president of the Women's Auxiliary, NAMP; O. M. McCullough, Richmond office, WPB; Dr. A. Hart Schaaf, state rationing executive.

Officers reelected were: W. J. Baumbach, Arlington, president; E. A. Brizzolara, Orange, first vice president; E. M. Lowe, Roanoke, second vice president; E. G. Payne, Norfolk, third vice president, and J. B. Henderson, Alexandria, secretary-treasurer.

E. E. Collins, Dan Wilson, Arlington; W. N. Beverley, T. A. Talley, W. W. Ellett, Richmond; C. L. Burgess, Lynchburg; C. P. Martin, Charlottesville; W. J. Bloomfield, Farmville; A. W. Oliver, Portsmouth; T. B. Tinsley, Marshall; L. B. Snead, Danville, and J. J. Shanahan, Norfolk, were reelected directors.

L. A. Free Classes

Stephen I. Smoot, secretary, Pacific Coast Plumbing Inspectors Assn. and senior inspector of the Plumbing Division, Los Angeles, has been appointed instructor of a new class in building sanitation inaugurated by the Frank Wiggins Trade School. The course embraces cross connections, a study of ordinances and emergency plumbing standards, and physics. All master and journeymen plumbers of the city are eligible to attend the free classes.

Convention Changes

Several changes in dates and locales for state association conventions have been announced by various secretaries of these state groups. The Alabama association will have headquarters at the Jefferson Davis Hotel instead of the Whitley Hotel; the Colorado society will hold its convention a week later than scheduled and will meet on May 17 and 18. The Connecticut association has changed its meeting place from New Haven to Milford and its headquarters will be at the Seven Gables Inn. The Pennsylvania convention will be held in Harrisburg at the Penn Harris Hotel, May 10 and 11.

Smoke Abatement

With Charles H. Hagedon as its heating and ventilating engineer member, the Indianapolis Smoke Abatement Advisory Committee was organized April 15 under terms of a city smoke control ordinance passed last year. Functions of the committee include educational campaigns in the interest of smoke abatement, as well as to advise the City Board of Public Safety.

Golden Gate Meet

Ventilating, heating and air conditioning as applied to warships was the subject discussed by Lieutenant Everetts, engineering officer in the office of Supervisor of Shipbuilding, at the April 7 meeting of the Golden Gate chapter, ASHVE of San Francisco. Pres. John F. Kooistra presided.

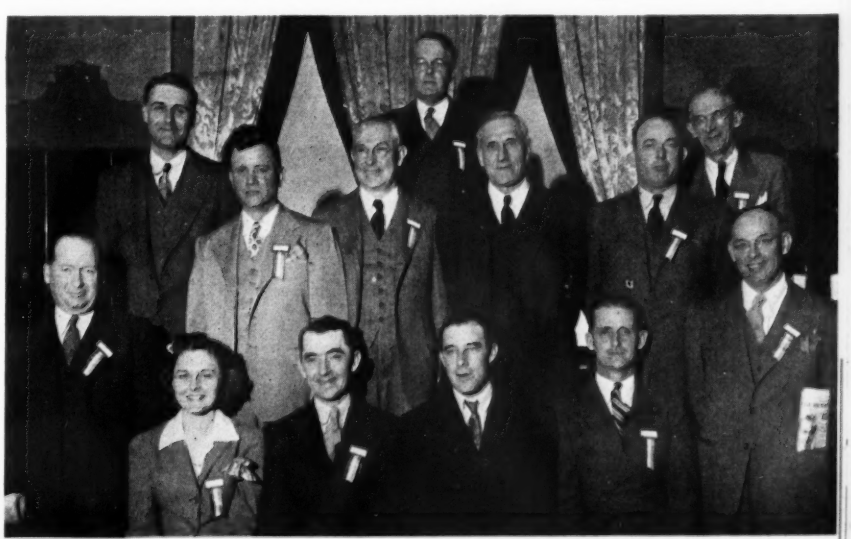
ASRE Convention

Low temperature applications of refrigeration developed to meet the many new demands of war production will be emphasized in the technical sessions of the 30th spring meeting of the American Society of Refrigerating Engineers, to be held June 1 to 3 at the Hotel Statler in Cleveland. In view of the important role refrigeration and air conditioning are playing in the war program, it is expected that attendance will be larger than in peacetime.

Chicago PCA

Harry Greisbach, instructor of the plumbing class at the Washburne Trade School, was guest speaker at the regular dinner meeting of the Plumbing Contractors Assn. of Chicago at the Blackstone Hotel on April 13. Mr. Greisbach talked on isometric and plan drawing, demonstrating his subject by blackboard illustrations.

At Virginia Convention: Front row—Mrs. A. H. Haase, executive secretary; E. G. Payne, Norfolk, 3rd vice-president; W. J. Baumbach, Arlington, president; J. B. Henderson, Alexandria, secretary-treasurer. Middle row—Directors, W. W. Ellett, Richmond; Dan Wilson, Arlington; J. J. Shanahan, Norfolk; W. J. Bloomfield, Farmville; A. W. Oliver, Portsmouth, and T. B. Tinsley, Marshall. Back row—William N. Beverley, Richmond; E. G. Harris, Richmond (ex-officio); C. L. Burgess, Lynchburg.



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In The War Production Program

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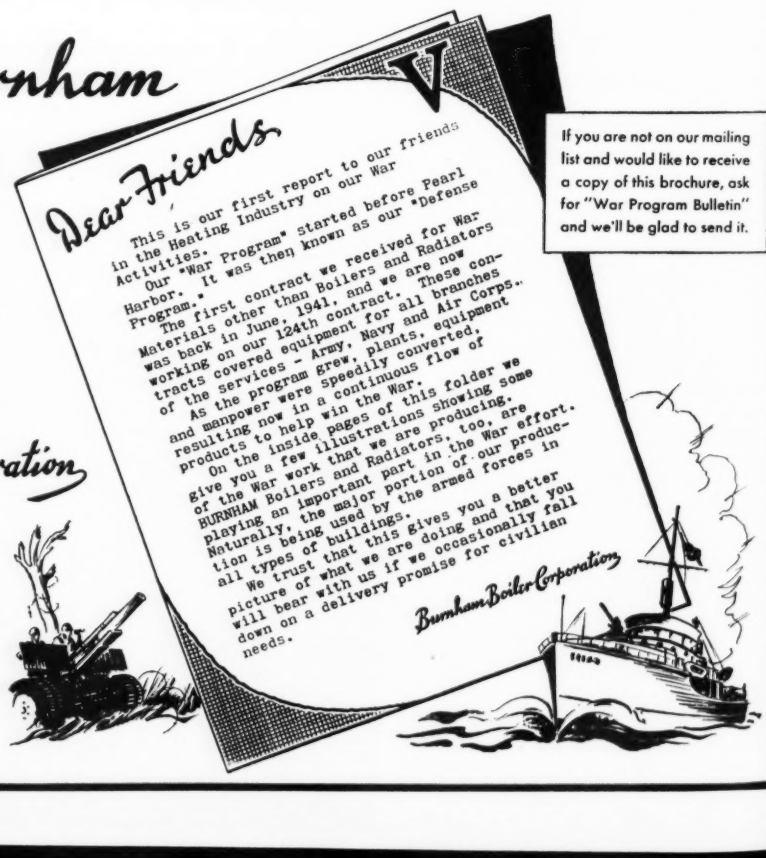
Dear Friends,
This is our first report to our friends in the Heating Industry on our War Activities.
Our "War Program" started before Pearl Harbor. It was then known as our "Defense Program."
The first contract we received for War Materials other than Boilers and Radiators was back in June, 1941, and we are now working on our 124th contract. These contracts covered equipment for all branches of the services - Army, Navy and Air Corps.
As the program grew, plants, equipment and manpower were speedily converted, resulting now in a continuous flow of products to help win the War.
On the inside pages of this folder we give you a few illustrations showing some of the War work that we are producing. BURNHAM Boilers and Radiators, too, are playing an important part in the War effort. Naturally, the major portion of our production is being used by the armed forces in all types of buildings.
We trust that this gives you a better picture of what we are doing and that you will bear with us if we occasionally fall down on a delivery promise for civilian needs.
Burnham Boiler Corporation

If you are not on our mailing list and would like to receive a copy of this brochure, ask for "War Program Bulletin" and we'll be glad to send it.

Phila. Assn.

Fifty new members joined the Master Plumbers Assn. of Philadelphia at the group's last monthly meeting.

This unusually good record is due to the work of Walter Raid, committee chairman, and members of his committee, Frank Blazek, Charles Kauffman, Wm. Haber, Fred Junkerman, Frank Martin and Harry Stillwell, Jr.; Charles Kaugman was high man.

Among the guests were Past State Pres. James H. Lutz; John Miller; Walter Ramsey, president of the Harrisburg association; and George Palmer, all of Harrisburg.

New York ASHVE

On April 19 the New York Chapter of the American Society of Heating & Ventilating Engineers combined its regular monthly meeting with a meeting of the New York Chapter of Producer's Council, Inc. J. H. Squires, Jr., and Sidney R. Orem, Jr., discussed "The Theory and Application of Electrostatic Precipitation to Ventilating and Air Conditioning Systems." Mr. Squires is a New York representative of the Westinghouse Electric and Mfg. Co. as well as vice-president of the local Producer's Council chapter. Mr. Orem is also an engineer from the Westinghouse factory.

Maryland Masters

The election of several masters to membership in the Association of Master Plumbers of the State of Maryland, Inc., at its regular meeting recently was seen as an indication that interest in association matters is at a high point. The belief was expressed that war construction demands on available journeymen may soon lessen and thus, once more, make available to employing contractors the necessary help.

The association voted to arrange a night for entertainent of the women's group. It is to be May 1 at the Emerson Hotel when a dinner, floor show and other attractions will be provided. Attendance was limited to 300 due to wartime shortages of food.

Inspectors Meet

A discussion of the municipal water pipe code by Harry Hayes, sanitary engineer of the Los Angeles Water Department, featured the last monthly meeting of the Southern Branch of the Pacific Coast Plumbing Inspectors' Association at the Los Angeles main library. Hubert Reeves, author of the association's standard water pipe code, discussed the principles on which the standard waterpipe code was based.

N. Y. Meets

The plumbing industry is playing a big part toward winning this war by providing sanitary facilities in the Army camps both home and abroad.

This was the declaration of Allan A. Westphal of Buffalo, president of the New York State Association of Master Plumbers, who addressed members of the association at its 55 annual convention in Hotel Statler, Buffalo.

"American Army camps have the best plumbing for fighting men in the world because there is one lavatory for every eight men and one shower for every twelve," Mr. Westphal said. Mr. Westphal predicted that after the war the plumbing industry would turn to installations made of plastic.

A campaign is under way to establish a state plumbing code for cities with populations of 10,000 or more, and for tourist camps and gasoline stations advertising sanitary facilities. A bill to establish such a code was passed by the State Senate at its first session, but was defeated in the Assembly. Speeches at the convention indicated that there would be no letup in the campaign.

William H. Ludlow, planning technician of the National Resources Planning Board, predicted that cheaper houses will be erected after the war.

Russell G. Creviston, trade relations director of Crane Company, Chicago, declared that "a volume of business estimated at $150,000,000,000 will be enjoyed by the United States the first year after victory."

T. W. Merryman, NAMP president, discussed Senate Bill 885 and pointed out some of its provisions of help to civilians, and plumbing and heating contractors.

At the closing session of the convention the delegates elected P. J. Watson, Schenectady, president; Floyd Boughton, Binghampton, vice president; Charles H. Mentzinger, Brooklyn, treasurer, and James J. McConville, Schenectady, secretary.

60th Mass. State

Continued operation of plumbing and heating facilities in American homes is being threatened by inadequate supplies of plumbing and heating materials according to James A. Milne, director of the NAMP, in his address at the 60th annual meeting of the Massachusetts State Assn. of Master Plumbers held at Copley-Plaza Hotel, Boston, April 27.

Robert Dick, Lead Industries Assn., told about his work in Washington in connection with various committees and stated that the lead situation was now quite satisfactory.

James A. Erwin, president of the Massachusetts state association, asked for the cooperation of the public in calling on the master plumber promptly for repair work. He stressed the point that very often prompt repairs will not only prevent inconvenience and danger but will save critical materials by making a major replacement unnecessary.

Officers elected for the coming year are: John H. Hurst, president; James A. Cotter, vice president; Franklin E. Darling, secretary; Robert F. Trohon, treasurer, and James A. Milne, national director.

Officers of the Massachusetts State MPA elected at the April 27 meeting are, standing: Franklin E. Darling, secretary, Fall River; James A. Milne, National director, Pittsfield; James A. Erwin, retiring president, North Quincy. Seated: James A. Cotter, vice president, Boston; John H. Hurst, president elect, Brockton; Robert F. Trohon, treasurer, Brookline

Outside Controls

(Continued from Page 48)

Popel's management, and recommendations included installation of outside type controls; insulating and weather stripping; use of orifices to balance heat through the buildings on steam jobs; electric booster pumps on hot water systems. In describing the work done and results obtained, Mr. Popel states:

"We followed these recommendations to the letter with gratifying results as evidenced by 14.6 per cent less heating costs in 1942 than in 1941 for the properties under discussion. This is a remarkable showing when consideration is given to the more severe winter of 1942 versus 1941 and the fact that fuel costs were greatly increased. In 1941 we paid $3.30 per ton for stoker coal whereas in 1942 the cost for this same grade of coal went up to $5.50 per ton, an increase of 60 per cent.

"The use of standard orifices to balance steam heating jobs was simple on two pipe systems. On one pipe systems we were at a loss for many months for a proper method to accomplish this important adjustment. In January, 1943, our heating engineers came forth with a bright idea for a different type orifice for one pipe systems. It consisted of a flat metal disc, slotted at the top and bottom. We tried this out on one of the one pipe steam jobs and after installing the orifices on the first floor only we immediately brought the heat of the building in line, whereas prior to this it was necessary to maintain 80 F. plus on the first floor and about 78 on the third floor. We are now using this type orifice on all of our one pipe steam heating jobs."

Early this spring Mr. Popel ordered five additional outside controls, for immediate installation, so as to get the benefits of fuel savings for the balance of mild weather heating.

"In addition," says Mr. Popel, "we find that with this fool-proof 100 per cent automatic control our custodians are free to do much more other work than would otherwise be the case."

Damper Regulator

THE damper regulator (steam) of one manufacturer contains 2⅞ lbs of steel and ⅜ lbs of copper. This is a heavy duty regulator for large boilers. The manufacturer points out that these large regulators may save five tons of coal per year each.

The company produces approximately 50,000 regulators, of all sizes, per year, and if each saves only one-half ton per year, the resultant saving would be 25,000 tons. Thus, conservatively stated, these regulators would perform the work of 25 coal cars, at only 15 per cent of the metal expenditure.

Oil Rationing

(Continued from Page 51)

But there are three "X" factors, or unpredictable situations that may alter the picture. They are expressed in these questions:

1. Will the pipelines produce the amount of oil estimated?
2. What will military withdrawals be?
3. Can the present low inventories be built up this summer?

Most important of the "X" factors is the possibility of a European invasion which would result in heavy military withdrawals unprecedented to date.

On the credit side, is the availability of larger supplies which are projected on the assumption that a disproportionate number of consumers will not waste fuel this year in the early months of the heating season as they did last winter.

The Fuel Rationing Division recently conducted a survey among 1,000 consumers to attempt to get some idea of conservation measures used last season. A high proportion of houses, it was found, used standby facilities of some kind and only 25 per cent of all users reported discomfort.

Use PLASTIC Plumbing Repair Parts to Conserve Critical Materials

Every pound of brass and other materials needed for the war must work to the limit for Victory. It is a patriotic duty, as well as good business judgment, to use plumbing repair parts made of PLASTIC whenever possible.

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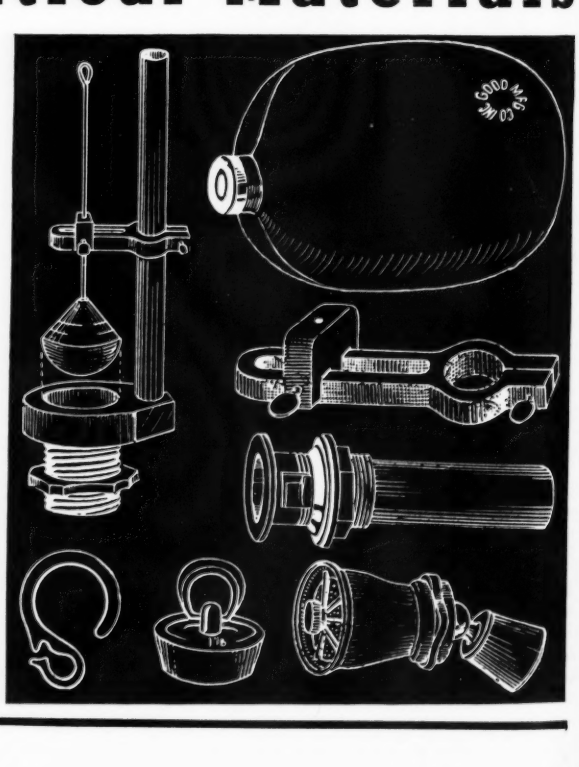


Plumbing Course

Revised practices in the plumbing trade, made necessary by the shortage of iron, steel and tin, are being taugnt at a new course in McKinley Vocational School in Buffalo as a part of the school department's War Industries Training Program.

No HPAC Convention

The Board of Directors of the Heating, Piping and Air Conditioning Contractors National Assn. has decided to omit the holding of the annual convention this year. This decision was reached after a consideration of all the factors involved.

Warm Air Preview

Pres. H. S. Sharp of the National Warm Air Heating and Air Conditioning Assn., has announced that Paul B. Zimmerman, chairman of the publicity and merchandising committee, will have a message of unusual importance for the convention on May 26, in the Drake Hotel, Chicago. Mr. Zimmerman's talk will give answers to such questions as "How and why can the markets of our products be expanded in the postwar era?"; "How can improved standards of comfort and health, performance, service, consumer and dealer education, place this industry on a reasonable profit level?"

According to present plans, several government men will be on the program, one of whom will speak on the subject "Orders or regulations which have been or might be issued on the subject of Controlled Materials Plan as it affects our industry." Other timely and important subjects will be presented by F. G. Sedgwick, chairman, research advisory committee, and Professors Kratz and Konzo of the University of Illinois.

Obituaries

Thos. E. Sullivan

Thomas E. Sullivan, 75, plumbing contractor for many years and a former city councilman of Kokomo, Ind., died recently. His wife and two daughters survive.

Walter J. Eddy

Walter J. Eddy, formerly secretary of the L. H. Tillinghast Supply Company, Providence, R. I., died recently.

R. L. Liebenderfer

Robert H. Liebenderfer, 53, plumbing contractor of Indianapolis, died April 15. He was a member of the MPA of Indianapolis and the national association. He is survived by his wife and two daughters.

Chas. A. McCormick

Charles A. McCormick, plumbing and heating contractor of New Brunswick, N. J., until his retirement a few years ago, died recently.

James G. Ross

James G. Ross, 46, Baltimore master plumber, died March 29. Mr. Ross was a member of the Association of Master Plumbers of the State of Maryland, Inc. He is survived by his wife and family.

John H. Wilkie

John H. Wilkie, manufacturers' agent of Detroit, died recently. Mr. Wilkie was at one time manager of the Park & McKay Company of Detroit. He is survived by his wife.

John W. Holtman

John W. Holtman, 61, Indianapolis, died April 11. Mr. Holtman has been a plumbing contractor for many years until his retirement about a year ago. He is survived by his wife, two daughters and a brother.

Wm. A. Bowers

William A. Bowers, 66, a pioneer heating contractor of Milwaukee, died April 9. Mr. Bowers came to Milwaukee in 1891 and went into business in 1900. His father, William H. Bowers, a heating engineer, was a representative of the old Fuller-Warren Co. and was an early advocate of air conditioning. Mr. Bowers is survived by his wife, a sister, and two brothers, one of whom, Arthur F. Bowers, is head of the Industrial Heating and Engineering Co.

The late Frank B. Lent whose obituary was carried in these columns in the April issue. Mr. Lent was a nationally known plumbing contractor of Saginaw, Mich., having served two terms as state president and four as local president. He was a director of the NAMP at the time of his death

Convention Dates...

May 3 and 4—IOWA—MPA convention to be held in Cedar Rapids, with headquarters at Hotel Montrose.

May 4 and 5—INDIANA—Annual convention of the Indiana MPA; to be held in Indianapolis with headquarters at Lincoln Hotel.

May 4-5—FLORIDA—Annual meeting of the Florida State Assn. of Master Plumbers and Heating Dealers, Inc.; to be held in Jacksonville with headquarters at Hotel George Washington.

May 10—KENTUCKY—Annual convention of the Kentucky MPA; to be held in Louisville, with headquarters at Brown Hotel.

May 12—CONNECTICUT—Annual convention of the Master Plumbers Assn. of Connecticut; to be held in Milford with headquarters at the Seven Gables Inn. Formerly scheduled to be held in New Haven.

May 11-12—PENNSYLVANIA—Annual convention of the Pennsylvania State Assn. of Master Plumbers; to be held in Harrisburg with headquarters at the Penn-Harris Hotel.

May 14 and 15—WASHINGTON—MPA convention to be held in Spokane, with headquarters at Spokane Hotel.

May 17—ALABAMA—Annual convention to be held in Montgomery with headquarters at the Jefferson Davis Hotel.

May 17-18—COLORADO—Annual convention of the Colorado Society of Sanitary and Heating Engineers; to be held in Denver with headquarters at the Shirley-Savoy Hotel.

May 21 and 22—OREGON—Annual convention of the Oregon Master Plumbers Assn.; to be held in Grants Pass with headquarters at the Redwoods Hotel.

May 21 and 22—NEW JERSEY—MPA convention to be held in Newark, with headquarters at Robert Treat Hotel.

May 26—WARM AIR—Mid-year convention of the National Warm Air Heating and Air Conditioning Assn.; to be held in Chicago with headquarters at the Drake Hotel.

May 28 — WHOLESALERS — Spring meeting of the Southern Wholesalers Association; to be held in Atlanta, Ga. with headquarters at Biltmore Hotel.

June 1-2-3 — ASRE — Thirtieth spring meeting of The American Society of Refrigerating Engineers; to be held in Cleveland with headquarters at Hotel Statler.

June 7-10—NAMP—61st annual convention of the National Assn. of Master Plumbers, to be held in Chicago, with headquarters at the Morrison Hotel.

June 8-11 — SMOKE PREVENTION ASSN.—37th annual meeting to be held in Pittsburgh, with headquarters at Hotel William Penn.

June 9 and 10 — NDHA — 34th annual meeting of the National District Heating Assn.; to be held in Pittsburgh with headquarters at Hotel Schenley.

June 26-27-28—WHOLESALERS—Thirty-third convention and business meeting of the Plumbing and Heating Wholesalers of New England, Inc.; to be held in Poland Spring, Me., with headquarters at the Poland Spring House.

Manufacturers & Wholesalers

New "E" Awards

Proudly they wave...the new blue and white Army-Navy "E" award flags over plants and factories in our industry which have accomplished great things in the production line in behalf of the all-out war effort.

Sarco Company, Inc., 475 Fifth Ave., New York, announced the award of the Army-Navy "E" for excellence in war production to its Bethlehem, Pa., plant on April 22. The plant is engaged exclusively on production of steam traps, temperature control, and heating specialties, used widely by the Navy, afloat and ashore, and by the Army in camps, air bases, on mobile laundries, engine test sets, etc. The award, therefore, was made for these standard Sarco products. It is good to note that in addition to specific articles of war, the regular products of our industry are considered vital to the war effort.

On March 29, in the Cicero Stadium, Cicero, Ill., the Edison General Electric Appliance Co., Inc., was presented with its Army-Navy Production Award for excellence in war production.

William H. Barker, clerk of East Boston District Court, was master of ceremonies April 19 when Carpenter and Paterson, Inc. received its "E" award. George Paterson, president, accepted the award in behalf of the Medford, Mass. plant from Major A. E. Voysey.

More than 4,000 Johns-Manville workers and members of their families packed into an improvised auditorium to celebrate formal raising of the Army-Navy "E" flag over its Manville, N. J. factory, March 24. Major General Robins, chief of the construction division, OCE, together with other army and navy officers inspected the plant.

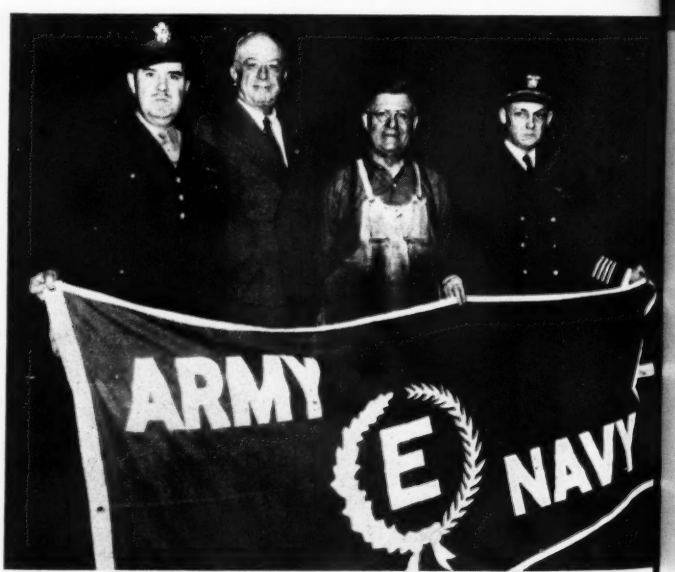
A short, business-like presentation ceremony was made in the plant of the Ladish Drop Forge Co., Cudahy, Wis., April 14. Victor F. Braun, president, made the address of welcome. The presentation address was given by Lt. Col. Edward H. Bowman of the U. S. Army Air Corps, and the acceptance by Herman W. Ladish, chairman of the board of directors.

Schwitzer-Cummins Company, Indianapolis, received its award for excellence on February 6. In the opening address of Louis Schwitzer, president, he termed the "E" production award..."a recognition of that persevering, unbeatable American spirit which can be satisfied only by achieving today what yesterday seemed impossible."

Hammond Brass Works, Hammond, Ind., had Lt. W. H. Fetridge, U. S. N. R. as chairman of the formal Army-Navy "E" award presentation April 27. The "E" flag was presented by Capt. H. L. Pence to Samuel Greenwald, president of Hammond Brass.

(Continued on Page 91)

Top photograph: Samuel Greenwald, president of Hammond Brass, broadcasting speech of acceptance on receiving Army-Navy "E" award. Center photograph: Holding the Army-Navy "E" Flag presented to the Ladish Drop Forge Co.: Lt. Col. Edward H. Bowman, U. S. Army Air Corps; Herman W. Ladish, chairman of the Ladish board of directors; Otto Retzloff, employee representative; Capt. D. D. Dupre, commandant, naval officers training corps, Marquette University. Bottom photograph: John Anderson, factory superintendent; Louis Schwitzer and Louis Schwitzer, Jr. holding the Army-Navy "E" awarded to the Schwitzer-Cummins Company



TOTAL WAR, STASCO SEATS, AND YOU!

When you order Stasco Toilet Seats from your jobber today, you face a new kind of competition—just as you do when you order meat from your grocer or gas from your dealer. For Stasco Seats are literally flying with bombers, diving with submarines, traveling with convoys, serving in Navy yards, barracks, war plants, and defense projects.

And you—the most important person in the world to us—must at the moment come second.

But, remember this about Stasco Seats . . . you come an unusually good second. For *all* Stasco's production is concentrated on toilet seats; and while over 50% of that production goes to war, the balance is available to you, through your jobber, for essential repair and maintenance. Much as we would like to improve our delivery to you, we believe we are giving you the *best* delivery of the best toilet seats available from anyone today. Remember that, and we believe you will specify *Stasco* more than ever.

★STASCO SEATS★

GUARDIANS OF MILITARY AND CIVILIAN HEALTH

STANDARD TANK & SEAT CO., Camden, N. J.

WE WANT MEN!

Positions now open for

RETAIL SALESMEN
INSTALLATION MEN
DISTRICT SALES MGRS.

DEMAND FOR INDUSTRIAL STOKERS SWAMPING OUR ORGANIZATION!

This is opportunity with a big O! A chance to associate yourself with the fastest growing stoker organization in the country. We can't keep up with our business—we need men—*good men!*

Can you sell? Are you a good mechanic? Can you lead men? We have a place for each type in the Winkler organization.

The fuel oil shortage has created a rush demand for stokers. The War Production Board is asking stoker manufacturers to break all records in speeding-up immediate conversion to coal among large users of fuel oil. Keeping the wheels turning in war and essential industries is today's most pressing job—*and stoker-fired coal can help do the trick!*

Write at once to the U. S. Machine Corporation, Lebanon, Indiana, makers of Winkler Stokers. Give all possible information about yourself—what you are doing—what you have done—and *what you can do* to make yourself a valuable and respected member of this organization.

THE ONLY STOKER WITH INTER-PLANETARY TRANSMISSION
. . power enough to crush rocks!

You can accurately judge any stoker by its driving mechanism—and the Winkler Transmission is acclaimed as the most outstanding ever designed for coal-burning equipment. Its *internal planetary gearing* gives it *extra* power to crush rocks or foreign matter in the coal which ordinarily cause a breakdown.

This super-power Winkler Transmission, in coordination with the Winkler Locked Screw Safety Release, eliminates the service costs and production losses which may occur with other designs. No shear pins to replace, no overload switches to reset—*it is the only fully automatic Stoker Transmission—guaranteed for three years!*

We are proud to announce that the Army-Navy Production Award has been conferred on the Winkler Factory Organization.

WINKLER
fully automatic STOKERS

U. S. MACHINE CORPORATION • LEBANON, INDIANA

Lt. James G. Kelsey, USNR, watches Mrs. Lorraine M. Carter sew a second star on an Army-Navy "E" pennant for American Brass

New "E" Awards

(Continued from Page 88)

More than ten thousand men and women workers of the Bridgeport Works of the General Electric Company, assembled in an outdoor mass meeting, March 26, to receive the Army-Navy "E" award. Gerard Swope, president; H. L. Andrews, vice president; Dr. W. R. G. Baker, vice president; Clark H. Minor, president of International General Electric Company, Dr. Wei Tao-ming, Chinese Ambassador to the United States were among the speakers.

A new star for continued excellence in the production of war materials has been added to the Army-Navy "E" pennants of the Ansonia, Torrington and Waterbury plants of the American Brass Co., subsidiary of Anaconda Copper Mining Company.

Additional industrial plants granted the Army-Navy production award, as announced by Under Secretary of War, Robert H. Patterson are Dow Chemical Company, Bay City Plant, Bay City, Mich.; The John Douglas Company, Cincinnati; and Rheem Manufacturing Company, No. 1 Chicago plant, Chicago.

War Standards

In an American War Standard approved recently by the American Standards Assn., and prepared by an ASA War Committee, higher pressures have been authorized for steel flanges, flanged fittings, and valves used in water, steam, and oil pipe lines. The new War Standard pressure-temperature ratings are expected to increase economy in the use of steel for pipe lines, thus helping the country's steel conservation program.

The new standard gives detailed information concerning calculation results and materials, and also contains four tables of pressure-temperature ratings with charts. An abbreviated plan for the strength analysis of the flanges was adopted.

N. O. Smith-Petersen, Walworth Company, is chairman of the committee which prepared the report; E. C. Petrie, Crane Company, is one of the members.

CSA Spring Meet

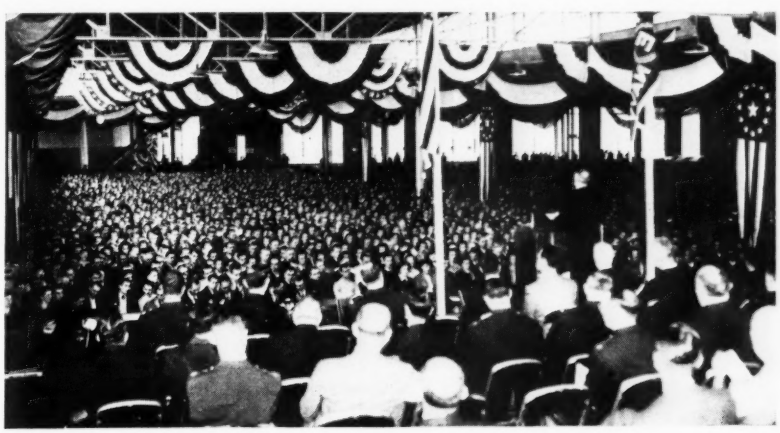
Topics discussed at the spring meeting of the Central Supply Assn. (Palmer House, Chicago, April 29 and 30) were notable for their strict adherence to specific problems of war and post war.

Leading off the program was a talk by E. F. Studwell, Warehouse Branch, Steel Division of WPB, on the topic, "Steel Warehouse Order under CMP and Pertinent Problems of Pipe Distribution." Considerable attention was given to CMP 4, which outlines procedure for selling steel to plumbing and heating contractors.

"The Manpower Problem and Its Effect on Distributors" and "Selective Service and Your Business," as presented by Thomas H. Wright and Lt. Col. George A. Irvin, both of the War Manpower Commission, struck a more hopeful note on the employment situation in pointing out that industry could draw from the 9,000,000 men between 18 and 37 who are classed as unacceptable to the armed forces, in addition to older groups.

Neil Staebler, price executive, Building Materials Branch, OPA, in comparing advances made in world war one with today, pointed out that pig iron went from $14 to $34 between 1914 and 1918, whereas it rose only from $22 to $24 in this war. In this war boilers and radiation advanced 17

Comm. A. S. Kibbee, U. S. Navy, addressing the more than 4,000 Johns-Manville workers and their families, who attended the Army-Navy "E" Award ceremonies at the Manville, N. J. plant recently



Below: Holding flag presented to Carpenter & Paterson, Inc. are: Thomas C. Paterson, vice president; John C. Carr, mayor of Medford; Charles E. Paterson, treasurer; A. E. Rohrbacher, representing employees; Lt. John H. Burke, U. S. Navy, Major A. E. Voysey, U. S. Army; George Paterson, president, and Stanley C. Paterson, company representative, Medford plant

per cent and 18 per cent respectively, while in the first war the advance was 138 per cent on boilers and 183-185 and 188 per cent on radiation.

Harry G. Starr, chairman, war emergency committee, American Institute of Wholesale Plumbing and Heating Supply Assns., gave an unscheduled talk in which he said there are signs in Washington of a more realistic approach to the plumbing and heating situation.

The Committee for Economic Development was presented as to its objectives and functions by Walter H. Gardner, chairman of the executive committee of the Peoria, Ill., group.

An energetic and informative "Priorities Session on the Controlled Materials Plan and the Use of PD-1X and Other Application Forms" was carried on by McCullough and McCullough (no relationship) and Carl Andrae. Lee McCullough pinchhit for J. F. Driscoll, supervising analyst, WPB, Chicago. Floyd E. McCullough, also a CMP analyst and Carl Andrae, distributors representative, are both from the regional WPB office, Chicago.

They outlined the advantages of using PD-1X, and urged wholesalers to use it as a means of obtaining ratings high enough to get materials.

Speakers at the Central Supply Assn. meeting in Chicago April 29 and 30 were, top row: Harry G. Starr, chairman of the war emergency committee, American Institute of Wholesale Plumbing and Heating Supply Assns.; Carl Andrae, distributor's representative, regional WPB office, Chicago; Floyd E. McCullough, CMP analyst, WPB, Chicago. Bottom row: Tod Wilkins of Wilkins Pipe and Supply Co., Peoria, Ill.; E. B. Hauser, secretary CSA; Wm. W. Weaver, president, CSA.

News Briefs . . .

Al Campbell has been appointed sales manager of **Kieley & Mueller, Inc.**, North Bergen, N. J. Mr. Campbell is well known in the power plant industry and the instrument field.

Anchor Stove & Range Co., Inc., Louisville, has appointed Harvey Culley sales manager. According to Mr. Culley, plans are already under way for a greately expanded sales program including, in addition to regular dealer helps, both local and national advertising.

Harvey Culley

The **National Water Life Company**, Kalamazoo, Mich., has been reorganized and is now under the management of Severens Balch, the new president, at its new location, 409 East Willard St. While keeping up with present production requirements, the company already has plans for large scale production after the war.

Crane Co. has announced several changes in personnel. Harry F. Potter has been elected secretary at a recent meeting of the board of directors. Since 1931 he has been manager of branch houses; he is succeeded in this position by James A. Dwyer, formerly manager of district No. 1. David J. Molloy, assistant manager of the New York branch succeeds Mr. Dwyer as district manager.

Allen P. Colby has been appointed advertising manager of all divisions of **The National Supply Company** whose executive offices are in Pittsburgh. Mr. Colby's headquarters will remain in Toledo.

Shepard Heater Co., formerly of Watseka, Ill., has moved to 6624 South Park Ave., Chicago. The move was prompted by the desire to be near better transportation facilities to give better service to its customers.

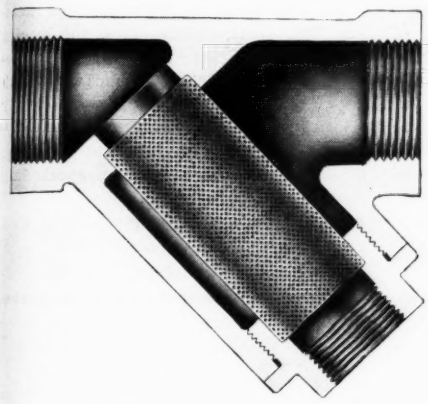
At a meeting of the stockholders of Buensod-Stacey Air Conditioning, Inc., held April 7, it was voted to change the corporate name to **Buensod-Stacey, Inc.**

Ralph A. Patterson has been appointed general sales manager for **Bell & Gossett Company.** Mr. Patterson was formerly in charge of the company's Philadelphia office but will now make his headquarters at the home office in Morton Grove, Ill.

Ralph A. Patterson

The Atchison Specialty Mfg. Co., Atchison, Kan., has contributed 40 men to the armed forces. An article on the company's record in war production dominated a recent issue of the Atchison Daily Globe, which stated that the firm is operating at capacity with 140 employees.

Call on K & M . . . *to Keep Your Control Equipment at Peak Efficiency!*



Our entire manufacturing output has gone to war . . . but 65 years of know-how is here to help you. If you have a pressure or fluid control problem—*any kind* of an installation, operating or maintenance problem—*call on K & M.* Our new VALVE PROBLEMS CLINIC is a clearing house of information established to help keep your business going. There is no charge for this service. You needn't be using K & M equipment. But you have a job to do . . . and we want to *help* you do it, with specific, informative, resultful assistance.

K & M STRAINERS—"Y" and Basket Types for use on steam, water, gas, air, oil, and other fluids. Note the oversized strainer basket area to assure minimum pressure loss. Baskets are easily accessible for cleaning. These features are typical of the simplicity and efficiency of K & M design.

KM · KIELEY MUELLER · ESTABLISHED 1879

Kieley & Mueller

ENGINEERED PRESSURE & FLUID CONTROL SPECIALTIES

NORTH BERGEN, NEW JERSEY

Representatives in all Principal Cities

ANOTHER "MASTER" IMPROVEMENT!

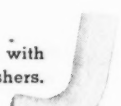
To meet the problem of extreme conditions a new feature is added to the "MASTER" P. O. Basin Plug that makes it applicable to all types of jobs . . . a metal disc is attached to the underside of the head. Installation is the same . . . all done by hand . . . no wrench is needed! Now you have a P. O. Basin Plug that will last as long as the fixture . . . will not rust . . . will not tarnish . . . yet will stand up under abuse! The best looking and most practical P. O. Plug yet made! Write today for full particulars.

Other Popular Items In the "Master" Line of Victory Plumbing Ware!

"Master" Sink and Tray Strainer . . . for use with steel, ceramic, or iron enamelware.

"Master" Adjustable Iron Traps . . . meets all housing specifications . . . malleable swivel ell . . . steel tube to floor or wall.

"Master" One Piece Plastic Closet Ell . . . with or without hexagon slip joint nuts and washers.



"Master" Plastic Shower Heads . . . practical . . . durable . . . and unusually attractive for modern showers.

★ ★ ★

Keep up-to-date with Challenger and Master Products. Watch for New Additions to the "MASTER" Line to Be Announced in This Magazine.

JONAS HAIES & COMPANY

Home of Challenger, Monarch and Master Products

20 BERGEN STREET BROOKLYN, N. Y.

News of Business . . . . .

Pacific States Gain

- *A 17 per cent gain reported by California wholesalers in March plumbing and heating sales.*

The Index of Business Activity for the week ending April 3 was 205.5, as compared with 147.3 a year ago. National income paid out in February totaled over ten billion dollars as compared with over five billion dollars in February of '42.

Reports from 67 key wholesalers throughout the country indicated an average decrease of 27.0 per cent in sales in March of 1943 as compared with March of '42. An average decrease of 26.4 per cent was reported by these same wholesalers in the first three-month period of 1943 as compared with the same period of 1942. Two of the wholesalers (one in the West South Central States and the other in the Pacific States) expect business in April to show a gain over that of April of last year, 19 expect it to remain about the same, 33 state that they believe it will decrease and 13 made no comment.

The Pacific States showed a gain of 17.10 per cent in March '43 sales as compared with the same month of the previous year. The largest decrease was reported by the West North Central States, with 42.5 per cent. For the three-month period, the Pacific States again showed the smallest decline, with 6.60 per cent, whereas the West North Central States reported a decrease of 44.9 per cent from March of last year.

In shipments of plumbing and heating equipment, stokers show the largest decrease (72.3 per cent) for the three-month period of '43 as compared with the like period of '42, followed closely behind by domestic water systems shipments, with a 71.3 per cent decrease. The smallest decrease was reported in galvanized range boiler shipments. Figures on steel boiler shipments for February were not, as yet, available.

Shipments of Plumbing and Heating Equipment

	Feb., 1943	Feb., 1942	First 2 Mos., 1943	Percent of change First 3 Mos., 1943 Over First 3 Mos., 1942
Mechanical Stokers Class 1, 2 and 3 for domestic, apartment and small commercial use. Number of Units	2,130	7,808	3,894	—72.5
Oil Burners Number of Units	5,952	17,996	13,455	—63.7
Galvanized Range Boilers Number of Units	47,919	49,217	89,555	—10.7
Domestic Water Systems Number of Units	958	3,967	9,968	—71.3

*Shipment figures on Steel Boilers have not yet been received.

WATER ON TAP
VITAL TO SAFETY

KEEP 'EM PUMPING

Plenty of geniune UNIFLOW parts are available.

Write for spare parts lists

ELECTRIC PUMP BUILDERS
UNIFLOW
FOR 21 YEARS

SHALLOW, DEEP AND JET WATER PUMPS AND SYSTEMS

WATER SOFTENERS
CELLAR DRAINERS
IRON FILTERS

UNIFLOW MFG. CO., ERIE, PA.

IMMEDIATE DELIVERY on COMMERCIAL or INDUSTRIAL STOKERS

Write for FREE Booklet of Complete Facts TODAY!

It you can't get exactly what you need, when you need it, here's your stoker opportunity! For we have

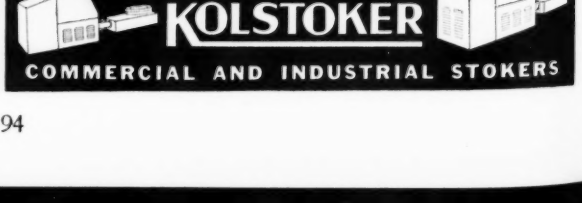
All Types and Sizes in Stock Now!

Regardless of your demand for commercial and industrial stokers—for use with bituminous or anthracite coal—for original installation or conversion—we can supply the type and size required from stock! And you get

America's Finest Automatic Coal Burner!

Anchor, the Symbol of an organization which has manufactured coal burning equipment continuously for over 78 years, is a stoker name you can confidently recommend and easily sell! For full details, write at once!

ANCHOR STOVE & RANGE CO., DEPT. NO. A
DIVISION OF
STRATTON & TERSTEGGE CO.
Incorporated
LOUISVILLE, KY.



COMMERCIAL AND INDUSTRIAL STOKERS

News of Women . . . . .

Elect Officers

At the April 6 meeting of the auxiliary to the Progressive MPA of Baltimore, the following officers were elected: Mrs. Ray L. Martin, president; Mrs. Samuel Hankin, vice-president; Mrs. May Vacek, treasurer; Mrs. Bettie Reger, recording secretary; Miss Mary Hackmeister, corresponding secretary; Mrs. Iris Weems, sergeant-at-arms; Mrs. J. M. Cuffley, chairman of entertainment. A May party was held May 2 on the Jenkins farm with the members of the master plumbers association as guests of the women.

Banners at Nat'l.

Jessie M. Fanning, chairman of the Banner Committee has issued the following appeal to all members of the national auxiliary: "Please make every effort to attend the Chicago convention,

Jessie M. Fanning

June 7 to 10, and bring your banners. If impossible to be there, send your banner and we will see that it is placed on display. We need your presence and hope that nothing will prevent you from being with us."

Mass. Women

A full schedule of business meetings and social events characterized the 21st annual meeting of the Auxiliary to the Massachusetts State Assn. of Master Plumbers which was held concurrently with the 60th annual association meeting at the Copley-Plaza Hotel in Boston, April 27.

The business meetings were held in the morning at which time reports of officers and committees were read and the officers for the coming year were elected. The entire afternoon session was social, with bridge and whist for those who wished to play cards. Women members of master plumbers' families who were not auxiliary members were invited to attend.

Officers of the Massachusetts Women's Auxiliary: Mrs. John H. Hurst, secretary, Brockton; Mrs. Arthur J. Smith, vice president, Brighton; Mrs. Amelio Della Chiesa, treasurer, Quincy; Miss Florence Jacobs, president, Newton

Portland Elects

The annual meeting of the Portland Women's Auxiliary was held at the home of Mrs. Orlo Kendall recently and the entire group of officers who served last year were reelected for the coming year.

These are: Mrs. J. R. Widmer, president; Mrs. C. C. McCoy, vice president; Mrs. H. Colliver, secretary; and Mrs. Addie Kendall, treasurer.

Wholesalers

(Continued from Page 39)

provision in the amended order even though many new items will be added to List A.

Many jobbers, the Distribution Division reports, have not taken advantage of Form PD-1X in order to replenish their inventories. The Division has a schedule of ratings which are applied to obtain for suppliers the items they need for their inventories. These ratings go as high as AA-1. When a rating does not "pull in" the item required, the jobber may apply to the Distribution Division to have his case reviewed. Jobbers in great number are not aware, say officials of the Distribution Division, that PD-1X is the instrument provided for their use in replacing stock sold.

The Distribution Division will shortly issue a revised PD-1X form which will considerably simplify application procedure.

Both the Distribution Division and the Plumbing and Heating Division have hastened to correct the impression that has gained some circulation that there is a conflict of jurisdiction between the two agencies.

The Distribution Division has not taken over administration of all plumbing and heating orders. It is not concerned with either P-84 or L-79. The Division processes PD-1X jobber applications for such plumbing and heating equipment as fixture fittings and trim, oil burners, radiators, and boilers. This is done through the Plumbing and Heating Division which assigns the rating that is considered necessary for the jobber to obtain the equipment. The Distribution Division passes on this rating to the jobber. Through other divisions the Distribution Division obtains recommended ratings for other types of plumbing and heating equipment, such as valves and fittings through the Shipbuilding Division, steel pipe through the warehouse branch of the Steel Division, sump pumps, motors, and fans through the General Industrial Equipment Division, and tools through the Tools Div.

Specialists at HEADACHE PREVENTION

There's a lot more to cutting threads in "K" cast iron fittings than meets the eye. That is why the head of the "K" tapping department is a toolmaker, an expert in precision.

His job is to uphold the national reputation of "K" fittings for clean, sharp, accurate threads. His job is to prevent those headaches you run into when you make up cheap, carelessly threaded fittings.

All through the "K" plant you will find such examples of close manufacturing control. All workmen have authority to scrap fittings showing flaws . . . and do so.

If it is a cast fitting up to 24", Kuhns can take care of you promptly, especially the smaller sizes. Facilities and materials on hand permit delivery without fail. Complete line of types, including steam, drainage, sprinkler and the usual standard and extra heavy. Get catalog of line today.

THE KUHNS BROS. COMPANY, Dayton, O.

Stocks at M. I. F. Branford, Conn. Also M. I. F. malleables in stock at Dayton, O.

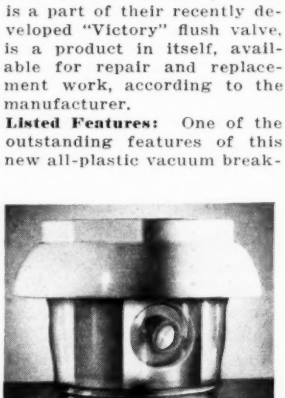
News of Products

Vacuum Breaker

This vacuum breaker, which is a part of their recently developed "Victory" flush valve, is a product in itself, available for repair and replacement work, according to the manufacturer.

Listed Features: One of the outstanding features of this new all-plastic vacuum breaker is that it has a transparent housing which permits **visual** inspection of the flapper and its operation. The flapper is a mechanical means for opening and closing the airport during the cycle of operation of the flush valve. It is stated that "one can now see the vacuum breaker working and be assured of the ultimate in protection against back-siphonage." This vacuum breaker is said to meet all Government specifications.

Manufactured by: Sloan Valve Co., 4300 W. Lake St., Chicago.



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Toilet Seat

Made in solid, one-piece molded plastic, these seats are said to be especially suited for new and replacement work in public buildings, apartments, hospitals, institutions, schools and factories.

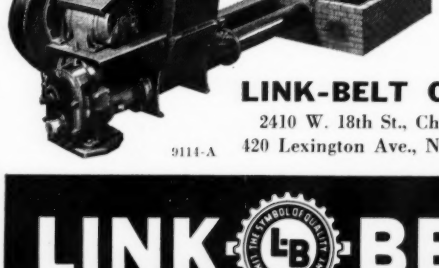
Listed Features: Made in standard designs to fit the regular oval, elongated and extended lip types of toilet bowls, these seats are available in two standard colors—brown and ebony black. A special feature is the new type of plastic hinge, by means of which no metal is left exposed

For Victory

LET LINK-BELT CONVERT YOU *from the use of oil or gas* **TO COAL**

Buy War Bonds and Stamps

For conversion, Link-Belt Industrial and Commercial Automatic Coal Stokers are available in all sizes up to 300 B.H.P. for bituminous coal. Write for a copy of Conversion Folder No. 1970.



Link-Belt Open-Hopper Industrial Coal Stoker, illustrated.

LINK-BELT COMPANY

2410 W. 18th St., Chicago, Illinois
420 Lexington Ave., New York, N. Y.

9114-A

LINK-BELT
AUTOMATIC COAL STOKERS

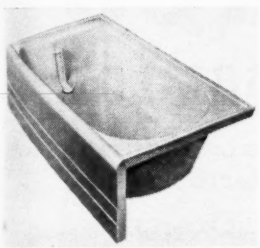
to rust, stain or tarnish. This is reported to permit easy and fast installation on all standard bowls. With no joints, crevices or seams the seat is said to be sanitary and easy to keep clean, retaining its original lustrous finish even under severe daily use. Because they are moisture-proof and acid-resistant—not affected by oil, alkalies, or elements—they are said to require no maintenance or refinishing, thus proving especially advantageous where large numbers are used and where, ordinarily, maintenance, sanitation and replacement problems are of paramount importance.

Manufactured by: Eclipse Plastic Industries, Inc., 5150 N. 32nd St., Milwaukee.

● ● ●

Bathtub

Made entirely of non-priority materials, this new tub is of a light gray finish—a color which is said to blend well with the lavatories and closets used in today's modern bathrooms.



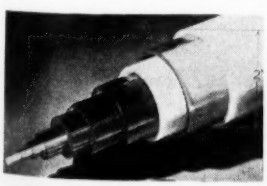
Listed Features: These tubs are made from a stone fused at extremely high temperatures, then ground and molded into an integral unit. It is then polished to a very high, lustrous finish which is said to make its beauty permanent. The tubs are installed in the same manner as regular cast iron or steel recessed tubs. They are 5 ft. long, 31 in. wide and 15 in. high, and are made with either left or right-hand outlet. The weight of the tub is approximately 475 lb. These tubs are available for immediate delivery.

Manufactured by: The Bloch Brass Co., 12217 Euclid Ave., Cleveland.

● ● ●

Tubing

To meet the expanding demands of war industry, this new seamless plastic tubing has been developed.



Listed Features: It is stated that this tubing, which is extruded from cellulose acetate butyrate, is now available in all diameters up to 2 in. o.d. However, within a short time it is said the range will be increased to 2½ in. o.d. to meet war production requirements.

Availability: The tubing is available from warehouse stocks throughout the country through Crane Co., Chicago and Julius Blum & Co., Inc. New York City.

Announced by: Extruded Plastics, Inc., Norwalk, Conn.

● ● ●

Water Heater

Patterned after the company's former "American" model automatic storage water heater, this new "American-Victory" model has been created with non-critical parts substituted for the various critical parts—iron has replaced aluminum, copper and brass— and highly polished chromium trimmings have been eliminated.

Listed Features: It is stated that an average saving of 20 lb of steel per heater is saved with the jacket made of non-metallic insulating material. The new door of pressed steel and the non-metallic legs account for an additional saving of 4 lb. This water heater is

available in four sizes—15, 20, 30 and 40 gal capacities. This steel tank is said to be extra heavy, galvanized inside and out. Standard equipment includes snap-action thermostat, drilled burner, safety pilot, draft hood, air duct, flue baffle, glass wool insulation, modernistic door and legs. The exterior is finished in white with black trim.

Manufactured by: The Hotstream Heater Co., 8007 Grand Ave., Cleveland.

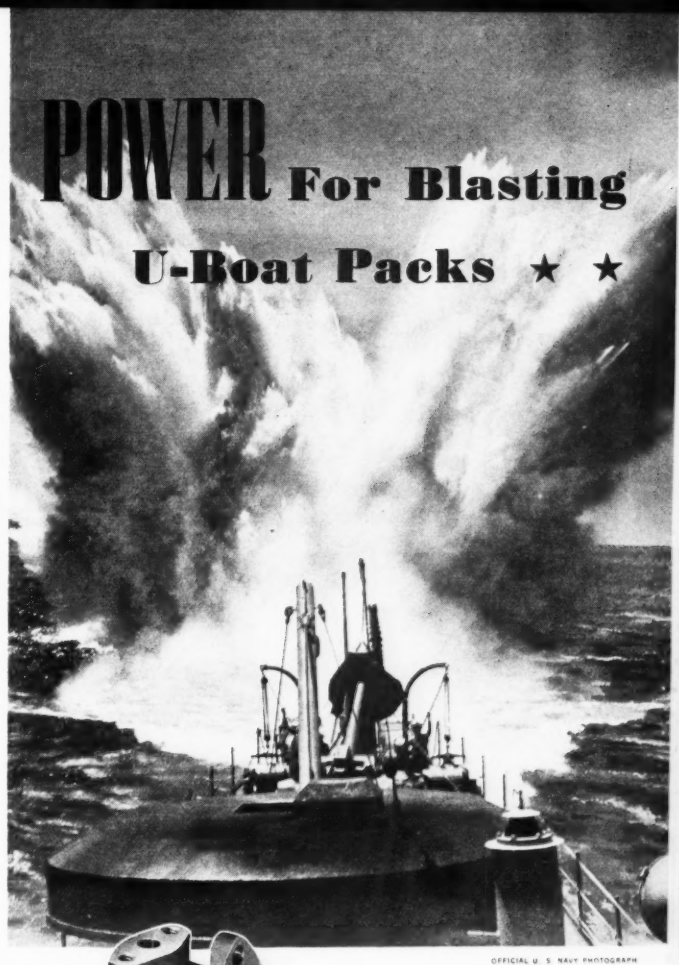
● ● ●

Pipe Seals

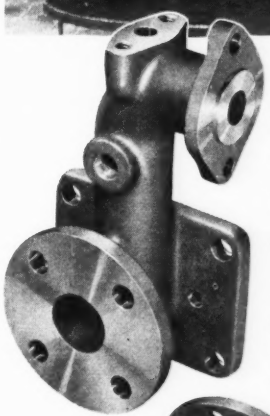
It is said that these plastic pipe seal plugs provide excellent protection for threads of units in storage or in transit.

Listed Features: These plastic seals, it is stated by the manufacturer, are light, tough, durable and non-corrosive,

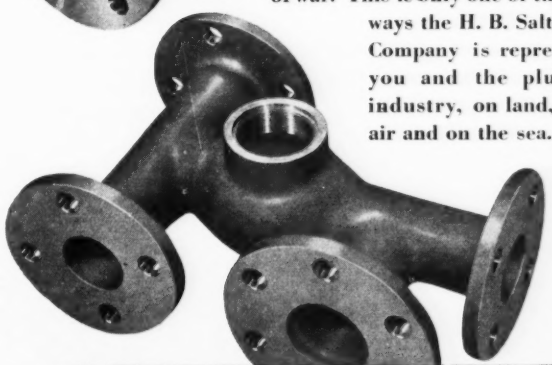
POWER For Blasting U-Boat Packs ★ ★



OFFICIAL U. S. NAVY PHOTOGRAPH



Hard hitting convoy escorts rely on dependable, untiring diesel power to track down and blast U-Boats to their watery graves. Here at Salter we are delivering tons of bronze diesel engine parts to major engine manufacturers . . . making this vital source of power available for destroyer escorts, corvettes, landing boats and countless other vehicles of war. This is only one of the many ways the H. B. Salter Mfg. Company is representing you and the plumbing industry, on land, in the air and on the sea. » »



H. B. Salter MFG. CO.
MARYSVILLE, OHIO
Masterpieces in Brass

YES!
Sherman
Today on
Is Working
the Faucets of Tomorrow

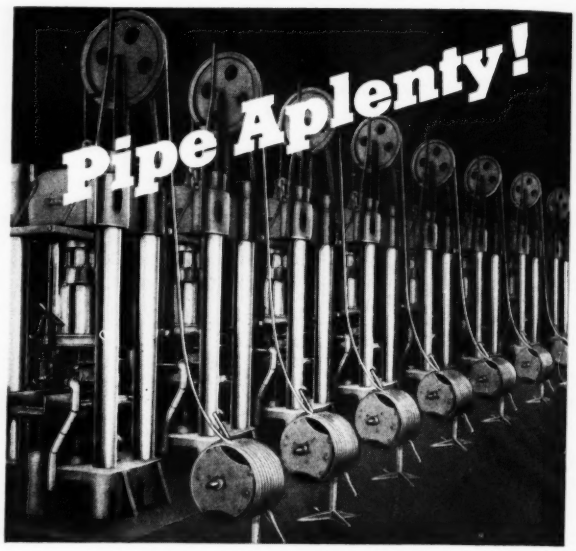
Sherman engineers, busy as they are with war production, have taken on the additional job of creating a new and still finer line of Faucets, to meet the new and more exacting demands of the immense post war market.

These new Sherman Faucets will have the exclusive Ball Bearing construction that takes the wear off the washer—prevents leakage. And they'll have many other far reaching improvements.

You're going to hear more about this line. And, as soon as production of Plumbing Brass can be resumed, you're going to have a chance to sell this line!

H. B. Sherman Mfg. Co.
Battle Creek, Mich.

Sherman
BALL BEARING FAUCETS



ASARCO
TYPE K TUBE-LOY
. . . for Economical, Enduring Water Service Performance!

TYPE K TUBE-LOY, a water service pipe for use to conduct water from main-to-meter, is plentiful.

There is an adequate supply of lead, the principal component of Type K Tube-Loy, and ASARCO has expanded its extrusion facilities to meet the nationwide demand for this tubing.

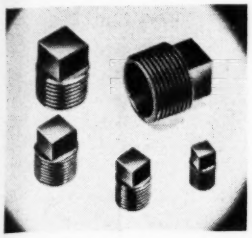
If you have not already investigated Asarco Type K Tube-Loy, do so at once. This product, in general use before shortages of other water service pipe, can be relied on to give economical, enduring performance. *ASARCO will send to you, on request, the complete facts on Type K Tube-Loy, together with technical information on its proper installation.*

The Grinnell Company, widely known as a leading fabricator of fittings, has designed an excellent product for use with Type K Tube-Loy. This product, which is known as the Superseal Flared Tube-Loy Fitting, is also readily obtainable, and because of its unique design and careful manufacture, is ideal to insure excellent water service connections.

ASARCO LEAD PRODUCTS DIVISION PRODUCTS

AMERICAN SMELTING and REFINING COMPANY
Lead Products Division
120 BROADWAY • NEW YORK

effecting important savings in critical materials. It is further stated that they effectually protect threads against damage, moisture, dirt, weathering rust and corrosion. Thousands of machine hours are said to be saved by the use of these precision molded



seals. These molded plastic pipe seals are available in five sizes—⅜ in., ½ in., ⅝ in., ¾ in. and 1 in., in any quantity for prompt delivery. Other sizes are said to be readily supplied on application.

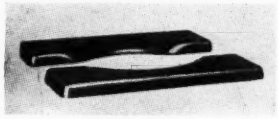
Manufactured by: American Molded Products Co., 1644 N. Honore St., Chicago.

● ● ●

Toilet Seat

This new "Navy" trough seat, although just developed, is said to have already been chosen for many Government projects.

Listed Features: These new seats are available for both the regular and elongated types of bowls. Type "A" is 21 in. long with the shipping weight of a single seat being 10 lb (master container of six seats weighing 63 lbs); type "B" is 18¼ in. long with the shipping weight of a single seat being 9 lb (master container of six seats weighing 57 lbs). The seats are natural plastic without any type of finish applied—they are highly buffed in a natural ebony color. These "Navy" trough seats have brass-flanged sockets molded integrally with the underside of the seat halves. The seats are molded into a seamless one-piece plastic and are said to have a solid core throughout.



Manufactured by: Swedish Crucible Steel Co., 8561 Butler Ave., Detroit, Mich.

● ● ●

Steam Trap

The thermostatic steam trap, in the accompanying illustration, is said to conform to the simplification program of the War Production Board with its cast iron body and cover using a minimum of critical materials. **Listed Features:** It is stated that "the motive ele-

THE HURRICANE BLEW IT OFF *but*

2 FLOORS NOW DO THE WORK OF THREE WITH

Sarco

The hurricane blew the top floor of the New England Overall Company to the ground. A rearrangement of machines — plus a speed-up produced by all-Sarco steam traps and controls — enabled this company to do more business with two floors than they formerly did with three.

The owner says: "If you have three wash wheels, you should be able to load them up all at the same time. If your plant is full of presses, pants stretchers, tumblers, etc., no one machine should be slowed up by any or all of the others. Our contractors advised a separate Sarco steam trap for each machine — we know now it would have been folly to do it any other way. I know what steam costs and what it costs to have operators wait. I'll spend a dollar to save ten anytime." Catalog No. 350.

145

SARCO SAVES STEAM

SARCO COMPANY, INC.
475 Fifth Avenue, New York, N. Y.
Sarco Canada Ltd., Federal Bldg., Toronto, Ont.

Showing a Typical Installation of Sal-Mo Supply Duct in a Defense Housing Project. Metal Was Used Only For Fittings, and Hangers

NON-METALLIC MATERIAL for constructing ducts for Warm Air Heating, Ventilating and Air Conditioning systems. Sal-Mo Supply Duct permits many installations that would otherwise be impossible because of the shortage in metals.

Sal-Mo Supply Duct, because of its low conductivity rate, assures efficient operation in both heating and cooling systems. Friction loss is low because of smooth interior surfaces. Air tight construction prevents heat loss.

Fabrication and packaging at the factory brings labor costs, shipping, trucking and storage expense to a minimum.

PROMPT DELIVERY—Sal-Mo Supply Duct is available in any quantity, in a complete range of sizes for domestic or industrial requirements. Furnished also in flat sheets for fabrication of ducts or for insulation.

APPROVED and LISTED BY
UNDERWRITERS' LABORATORIES, INC.

Sal-Mo Supply Duct is Tested For:

Fire Hazard Classification; Inflammability; Fire Retardant Classification; Fire Spread; Moisture Absorption.

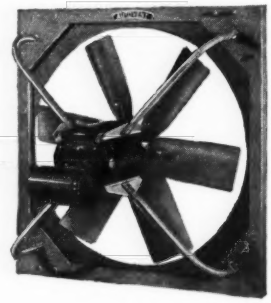
Write For Information Regarding These Tests

SALL MOUNTAIN COMPANY
176 W. Adams St. Dept. G-3 Chicago

SUMMER HEAT AHEAD . .

Good Ventilation Promotes Efficiency...Reduces Absenteeism

HERMAN NELSON
Autovent
DIRECT DRIVE
PROPELLER FANS



DRIVE out summer's sluggish air with powerful Herman Nelson Autovent Propeller Fans. . . . Exhaustive tests in plants, factories and commercial establishments proved that the better working conditions made possible by an efficient ventilating system speed up production, lower the number of accidents, and reduce mistakes and time lost because of illness. Subsequently, absenteeism too is reduced. . . . Herman Nelson Autovent Propeller Fans operate efficiently and economically, even under severe conditions. They are ruggedly constructed to give many years of trouble-free service. Direct or belt drive designs. Available in wheel diameters 10 to 54 inches, capacities 670 to 22,690 cubic feet per minute.

SEND FOR FREE BOOKLET featuring Herman Nelson Autovent Propeller Fans for Ventilating Public, Industrial and Commercial Buildings.

herman nelson moline illinois

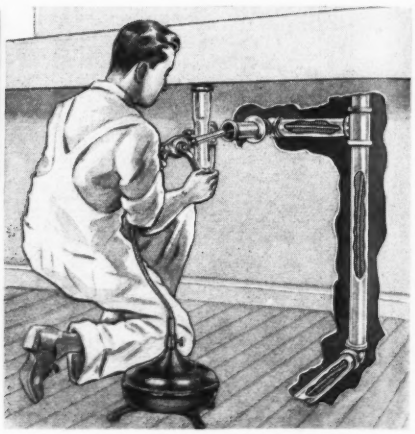
Sales and Service Offices in Principal Cities

The Herman Nelson Corporation MOLINE ILLINOIS

Autovent Fan & Blower Division, Chicago, Illinois

Manufacturers of
QUALITY HEATING, VENTILATING AND AIR CONDITIONING PRODUCTS

CLEARS BLOCKED WASTE LINES FAST!



IMMEDIATE DELIVERY ASSURED!

Saves Time..Money! Cuts Costs!

One man clears the toughest blocked waste line in a matter of minutes with this O'Brien Cleanout Tool! The high-speed, gear-driven gun whirls the strong, flexible cable of high-grade music wire through any number of elbows, right angles, bends or traps . . . cuts through stoppage in a jiffy! Floors keep clean because the soiled rod is reeled INSIDE the rust-resisting container!

Army Camps, Air Fields, Naval Stations, Ordnance Plants and leading plumbers throughout the country use O'Brien Cleanout Tools. By using the best equipment available, they save time, money and labor! Profit with this amazing pipe cleaning tool now . . . write or see your wholesaler!

O'BRIEN MANUFACTURING CO. Dept., C, 1505 So. Crescent Avenue Park Ridge, Ill.

O'Brien CLEAN OUT *Tools*

EASY TO OPEN FOR Inspection

KEY-TITE

The Leak-Proof Sealer will not freeze connections

Periodic inspection, cleaning and frequent changes in piping layout present no problems of "frozen" connections when Key-Tite is used to seal the joints. Key-Tite is for water-proof service and is ideal for gas lines and for liquids and vapors of water base.

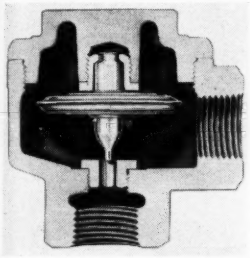
Lines and Equipment for the use of heating and industrial gases, refrigerating coils, and many refrigerants can be made-up leak-proof with Key-Tite. When inspection or cleaning is required the parts will open free and clean without breakage. Fittings, gaskets and connections can be saved and re-used.

Key-Tite is economical to use, will not settle nor harden in the can and will not affect the color or taste of potable liquids.

WRITE FOR FREE SAMPLE

KEY COMPANY
2661 McCasland Ave. • East St. Louis, Ill.

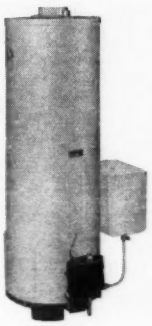
ment or heart of the trap is a phosphor bronze diaphragm." The diaphragm is said to be self-equalizing for use at subatmospheric pressures up to 15 psi gauge pressure. Construction features of the trap include renewable brass needle and seat. The trap has female inlet and outlet connections with left hand thread inlet and right hand thread outlet. It is available in three sizes. **Manufactured by:** Jas. P. Marsh Corp., 2073 Southport Ave., Chicago.



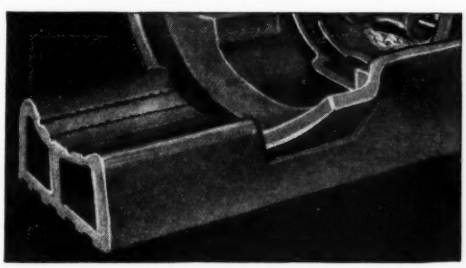
● ● ●

Water Heater

This new automatic oil burning water heater has been designed to meet specifications and requirements of various Government buying agencies. **Listed Features:** To comply with the conservation of steel, the casing of the water heater is of composition asbestos fiber board. Other features of the heater are: the automatic draft regulator which also serves as an opening for lighting the burner . . . rock wool insulation . . . heavy steel tank, hot dipped galvanized inside and out . . . the improved burner that is said to burn clean on both pilot and high fire . . . the water temperature adjustment knob for temperatures desired . . . and the snap action control with automatic float. Available in 20, 30, 40 and 50 gal sizes, the water heater is attractively painted in ripple gray enamel. **Manufactured by:** J. L. Gillen Co., Dowagiac, Michigan.



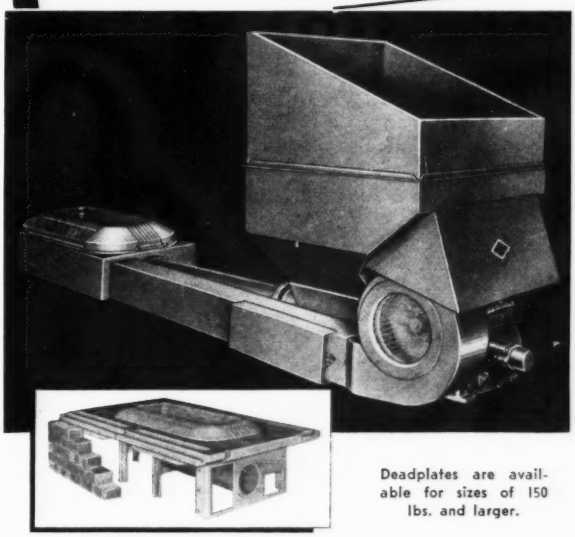
ADSCO - BANNON TILE CONDUIT
is Designed with a Base Drain



● **One failure of a Pipe Conduit WITHOUT Base Drain may flood its entire length.**
The base drain in ADSCO-Bannon Tile Conduit rids it of ground water seepage—also any water from within, making it possible to put pipes together with ordinary threaded connections.
Whether threaded or welded it is easy to install a group of pipes. Pipe can be worked on where you can get at it, then let down in place. No working at close quarters. Highly skilled labor not required.
Made of non-critical materials. Send us details of proposed installation for prompt quotation or write for illustrated bulletin No. 35-67DE.

AMERICAN DISTRICT STEAM COMPANY NORTH TONAWANDA, N. Y.
Making "UP-TO-DATE" Steam Line Equipment for over 60 years

WILL-BURT *Commercial* STOKERS



Deadplates are available for sizes of 150 lbs. and larger.

Again Available
For Wartime Needs

● The call has gone out for stokers to relieve the critical heating situation and Will-Burt is responding by building commercial sizes. The manufacturing program will be expanded as fast as conditions permit. We shall be happy to supply the needs of Will-Burt dealers for jobs having the approval of the War Production Board and will render as full measure of service as possible in these difficult times.

Air Controlled WILL-BURT STOKER

Tell us your needs and we will do our utmost to supply them.

THE WILL-BURT CO.
STOKER DEPARTMENT
ORRVILLE • OHIO

DO YOU Know...

that commercial and industrial stokers can be built and sold to buyers who can qualify under government regulations . . .

that our government is encouraging the building and buying of such stokers for the following reasons . . .

To promote the national necessity of converting from oil and gas to coal.

For new construction or to change over from hand-firing to stoker-firing where stokers will save coal, labor, transportation or increase production to further the war effort.

To heat the military establishments and other premises where numbers of war workers must be comfortably and healthfully housed.

Where a worn out stoker must be replaced or parts cannot be had for the continued operation of an "orphan."

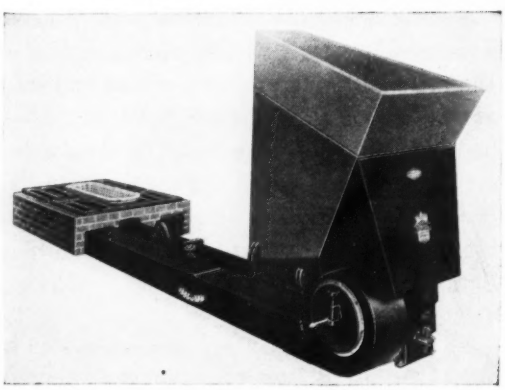
Many buyers who need stokers and can qualify do not know these things—many who could sell stokers and aid the oil conservation program and the war effort do not know them.

There never was a larger market for commercial stokers. It offers a fine opportunity to keep yourself active in the furnishing of war time necessities and make a profit. STOKOL'S production of Class A stokers is greater than ever before, and deliveries are excellent. There is a need in this emergency for additional active dealers, and for individuals who can locate eligible prospects and work with existing dealers.

Write or wire for further information

• There are commercial STOKOLS for either

ANTHRACITE or BITUMINOUS



BITUMINOUS STOKOL—*75 pounds to 1000 pounds capacity.*

SCHWITZER-CUMMINS COMPANY

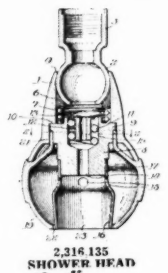
Heating Division, **1145 East 22nd Street**

Indianapolis, U. S. A.

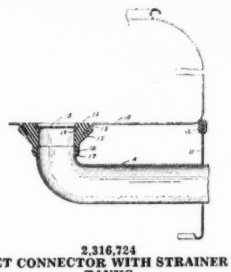
News of Patents

2,316,135. Shower Head. James R. Turck, Berwyn, and Carl Bolling, Chicago, Ill., assignors to Crane Co., Chicago.

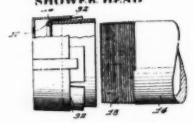
2,316,724. Outlet Connector with Strainer for Tanks. Pierce Sperry, Middlefield, Ohio.



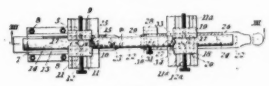
2,316,135
SHOWER HEAD



2,316,724
OUTLET CONNECTOR WITH STRAINER FOR TANKS



2,316,013
PIPE THREAD PROTECTOR



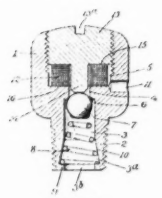
2,316,049
MACHINE FOR BENDING PIPES AND THE LIKE

2,316,013. Pipe Thread Protector. Thomas Mulholland, Pittsburgh, Pa.

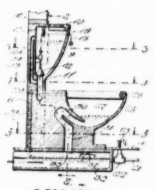
2,316,049. Machine for Bending Pipes and the Like. Richard Connor, Steubenville, Ohio.

2,314,963. Automatic Air Vent Valve. Edward P. Zelnis, Chicago, Ill., assignor to The Dole Valve Co., Chicago.

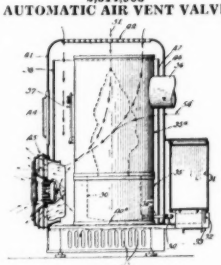
2,316,515. Water Closet Construction. Max Grunt, Summit, N. J.



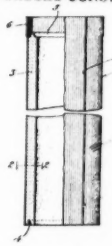
2,314,963
AUTOMATIC AIR VENT VALVE



2,316,515
WATER CLOSET CONSTRUCTION



2,314,696
AIR CONDITIONING AND CIRCULATING APPARATUS

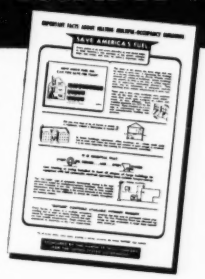


2,314,328
FLUE OR VENT PIPE

2,314,696. Air Conditioning and Circulating Apparatus. James M. Funk, Ottawa, Ill., assignor to Lonergan Mfg. Co., Albion, Mich.

2,314,328. Flue or Vent Pipe. Frank C. Enderle, Los Angeles, Calif.

Uncle Sam wants every building equipped with thermostatic control



Particularly multiple-occupancy buildings—stores, offices, apartment buildings, hotels, schools, etc.

This need is so urgent—

that the Office of Price Administration has distributed a folder to all local ration boards stating, "It is essential that every Burner and every Stoker now heating or being installed to heat all classes of large buildings be equipped with full automatic controls operating from outside temperatures."

No priority is needed—

to purchase such "Outside" controls. We have been allocated materials by W.P.B. for construction of Marsh Tri-trol Regulators to make them immediately available.

Help the War Effort and Help Yourself with

THE MARSH TRI-TROL REGULATOR

that offers building owners and operators such "Outside" control in its simplest, yet most complete form. It is easily installed, fits any type or size of building and usually saves enough to pay its own way the very first year. *And each sale pays you a big profit.*

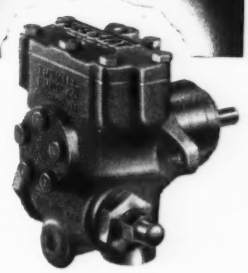
Uncle Sam wants action *right now.* We have been permitted to reproduce the OPA folder . . . you can send this important message to all of your customers. Copies are ready for you, along with a complete money making and fuel saving program.

Write for all the facts. *Do it now!*

MARSH TRITROL COMPANY

600 S. MICHIGAN AVENUE • CHICAGO, ILLINOIS

WHEN THE RISING SUN *SETS*



After Tojo and Schicklgruber have been put down for keeps, Tuthill Pumps and Fuelstats will again take their place in supplying the domestic oil burner market with dependable pump performance — pumps built better than ever through wartime requirements.

Until then, you can rely upon Tuthill factory or authorized field station service to keep your Tuthill pumping equipment operating at top efficiency.

TUTHILL PUMPS ARE SERVING

ARMY • NAVY • AIR FORCE • MERCHANT MARINE

Tuthill

TUTHILL PUMP COMPANY

939 EAST 95TH ST. • CHICAGO, ILLINOIS

FERROUS PLUMBING PRODUCTS

by The M. S. LITTLE Mfg. Co.

featuring

PEBELAC

The New Finish

For effective protection against rust and discoloration, the surface of each product has a most attractive crackle finish, which is appropriately named

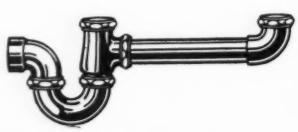
PEBELAC

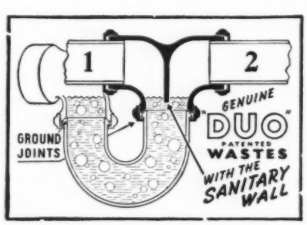
Genuine "DUO" *Wastes*

EXCLUSIVE *Sanitary* FEATURES

FOR SINK & TRAY COMBINATIONS & DOUBLE COMPARTMENT SINKS

No. 407
Genuine "DUO"





SANITARY—

The same sanitary construction features are now available in the line of Ferrous Metal Genuine "DUO" WASTES. Look for the name "DUO"—

CATALOGED BY LEADING WHOLESALERS

MADE BY M. S. Little

TUBULAR BRASS PLUMBING GOODS · HEATING SPECIALTIES

THE M. S. LITTLE MFG. CO. HARTFORD, CONN. U. S. A.

ONLY GOULDS JET-O-MATIC DUAL SERVICE WATER SYSTEMS OFFER THESE ADVANTAGES

TO YOU

Dual Application—Same pump for *either* shallow or deep wells. Greater rating coverage with fewer parts means better service with smaller inventories.

Simple to Install and Maintain—Large pump pit not required. Easy access to all working parts without disturbing piping connections.

"Clean" Installations—Special features of design guarantee trouble-free operation, minimize "hard-to-charge-for" calls for repair or adjustment.

TO YOUR PUMP CUSTOMERS

Low Cost of Installation—Can be located in basement or other convenient spot . . . special pump house over well not necessary. Large pump pit not required. Use small tank advantageously.

Automatic Operation—No manual adjustments or oiling required.

Fewer Parts—Centrifugal Pump Impeller and shaft only moving part . . . no close clearances . . . no rapidly wearing, expensive parts to repair or replace.

Quiet Operation—Smooth flow, no pulsations—starts and stops without jolt.

No Loss of Prime—Once installed, primed, and started, no further attention necessary.

Protection Against Water Level Drop—Can be converted quickly—inexpensively from shallow to deep well operation.

No Relief Valve—All danger of excessive pressure has been eliminated.

Full Lift — Published ratings do not depend on close clearances.

Automatic Air Charging — No special devices needed—ever.

Designed by the World's Leading Pump Engineers

LABORATORY TESTED FIELD TESTED GUARANTEED

Send today for Bulletin describing

JET-O-MATIC WATER SYSTEMS

GOULDS PUMPS Inc.

SENECA FALLS, N.Y.

ATLANTA BOSTON CHICAGO HOUSTON NEW YORK PHILADELPHIA PITTSBURGH TULSA Representatives in all Principal Cities

3823

News of Sales Aids

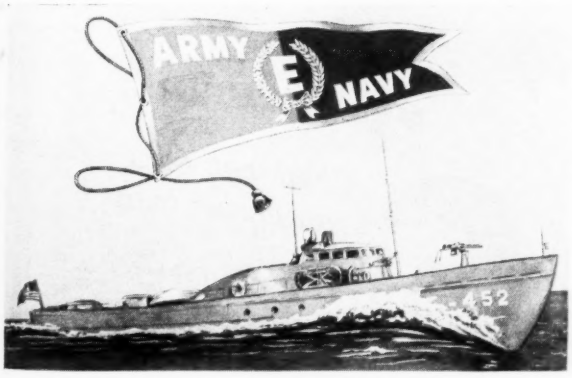
Fiber Pipe

Type of Literature: A sixteen page 8½ by 11 in. booklet entitled "Orangeburg Fibre Pipe." **Listed Features:** Comprehensive data is given on the general properties and characteristics of this pipe, which is made of non-critical material. Further information is given on the economies effected through the use of this pipe, in both initial and installed costs. Data is also given on the methods employed in connecting, installing and cutting the pipe, with accompanying illustrations. Included in the booklet are a number of dimensional tables and diagrams. Two pages are devoted to the 5 deg angle coupling which, it is said, allows the laying of offsets, long radius bends, etc., to get around obstructions and other service pipes which may be encountered. Sketches are included which show possible variations which may be obtained in the layout. An additional two pages, including diagrams and tables, are devoted to bends and elbows. Instructions are given for laying the pipe and making union connections. Finally, data is given on the advantages derived from using the pipe for drainage pipe from septic tanks—in this connection, it is stated that the pipe is already perforated to provide best distribution and is supplied with an easy-to-assemble snap coupling which keeps out dirt and holds the pipe in line. **Issued by:** The Fibre Conduit Co., Orangeburg, N. Y.

● ● ●

Boiler Operation

Type of Literature: A 48-page booklet entitled "Dividends From Your Power Plant." **Purpose:** It is stated that this booklet was published as a service to boiler owners—as it is felt that it may help to reduce steam costs and to realize the profits derived from more reliable operation of boiler equipment at a time when management is faced with the complex problem of maintaining equipment in continuous service at peak capacity. **Listed Features:** Written in a most interesting manner, the booklet discusses such subjects as the dollars and cents importance of boiler



IN THE SERVICE . . .
. . . on Land and Sea!

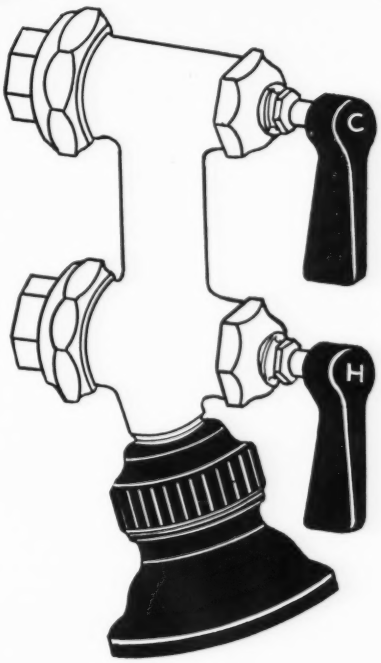
Just as GERSTEIN & COOPER-made 3-700 gallon fuel tanks and pilot house on each boat are serving the nation aboard those brave Coast Guard Cutters . . . so are GERSTEIN & COOPER copper products serving their civilian users . . . with honors!

WAR — Manufacturing Ferrous and non-Ferrous Fuel and Pressure Tanks; Ferrous and non-Ferrous pipe bending; Fabricators of large diameter copper pipe bends; GERSTEIN & COOPER expansion joints.

PEACE — Range boilers; water heaters; oil fired, gas fired, electric tankless instantaneous heaters.

GERSTEIN AND COOPER CO.
1-3 West 3rd Street South Boston, Mass.
ENGINEERS AND METAL FABRICATORS

100% ENGAGED IN WAR PRODUCTION



SV-2155 SPEAKMAN "VEE-LINE" INDUSTRIAL WASH-UP FIXTURE

½" I.P.S. Female Inlet Couplings 3" center-to-center. Galvanized ferrous valves with renewable brass units and seats. Black plastic lever handles. Rigid plastic Adjusta-Spray Shower Head with ½" I.P.S. inlet. Corrosion resistant, unaffected by extremely hot water, self-cleaning. Grooves in outer edge of face assure full invigorating cross spray.

SV-2165—Same as SV-2155 but less spray head.

These fixtures are used extensively for industrial installations and by the Navy in connection with scrub decks.

For full information on this fixture and other Speakman "Vee-Line" Fixtures conserving critical materials write:

SPEAKMAN COMPANY · WILMINGTON, DELAWARE

DEPENDABLE Speakman Fixtures
FILLING WARTIME DEMANDS

The FIRST cost is the LAST cost when you install the new One-Piece ALL-PLASTIC Toilet Seat—in public buildings, factories, hospitals, schools, and war housing.

No need for repair, refinishing or maintenance expense.

Attractive, strong, light in weight, this solid Plastic Seat provides a lustrous, satin-smooth surface that is PERMANENT, resistant to moisture, acids, alkalies, oil—and WEAR. It cannot warp, chip or scale. Sanitary, easy to keep clean, it has no joints, seams or crevices.

For Permanence and Economy—install new San DURO Toilet Seats! Available in three models to fit all standard bowls.

★ *Write for descriptive literature and prices.* ★

Eclipse ECLIPSE PLASTIC INDUSTRIES
5153 NORTH THIRTY-SECOND ST. • MILWAUKEE, WIS.

With the MEN Behind THE GUNS

BURKS Super Turbine Shallow Well System

Where the Navy goes—BURKS Pumps go, too. In boats of various types from glamor PT's and other fighting craft to the less noticed auxiliary boats and merchantmen, you'll find BURKS Pumps on the job, supplying drinking water—pumping water to fight fires—keeping the sanitation system going or pumping bilge. Ships need good pumps and BURKS Pumps fill the need. They're with the men behind the guns.

BURKS Super Turbine Shallow Well Pump for large capacities

Not only boats, but camps, forts, munition and ordnance plants, as well as war material manufacturers, need dependable pumps. We depend on BURKS Dealers to see that all such organizations are made familiar with BURKS Systems.

We will help you in every way possible.

DECATUR PUMP CO. 33 ELK ST. DECATUR, ILL.

efficiency, the relation between steam costs and profits, natural versus mechanical draft, carbon dioxide and carbon monoxide, excess air, and factors that govern labor costs in the boiler room. The text is pointed up with examples, tables and sketches to make each topic clear. Typical of chapters included are, "'Good' Boilers Can Waste Money," "Steam Isn't Frozen," "If the Production Budget Has a Close Margin," "Inventions for Sale," etc. **Issued by:** Preferred Utilities Co., Inc., 33 W. 60th St., New York City.

• • •

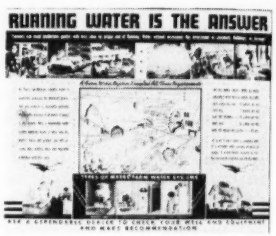
Lining

Type of Literature: An eight page 8½ in. by 11 in. bulletin No. 1502, entitled "Resilon Corrosion-Resistant Tank Linings." **Listed Features:** Complete information is given on the physical and chemical characteristics of this new lining as well as information as to the various purposes for which this lining material is suited. It is said that this new lining material is a resinous, thermoplastic material, low in cost and suitable for many corrosive applications. A few of its uses are to line pipe, troughs, drains, sewers, fume hoods, and ventilators; or as a pipe joint compound, a roofing material or as waterproofing compounds. Further information is given as to the installation methods—it is stated that no special tools are required and it can be applied to equipment of any size. It is available in sheets up to as large as 32 in. by 50, and in thicknesses from $\frac{3}{8}$ in. up; as well as in bulk for "heat-and-pour" applications. Throughout the booklets are illustrations. **Issued by:** The United States Stoneware Co., Akron, Ohio.

• • •

Water Systems

Type of Literature: An illustrated, educational poster entitled "Running Water Is the Answer." **Purpose:** to arouse



interest in the importance of making full use of farm water systems to meet food production quotas. **Listed Fentures:** the need for keeping pumping equipment in the best possible condition is stressed, with special emphasis on the local dealer as a source of compe-

MEMORANDUM

Check our Pipe cutting equipment today!

Make sure Genuine Barnes Cutters and Wheels are in stock!

If not, buy as soon as possible.

Must have for more complete stock now and after the war!

The BARNES TOOL CO., Inc.
NEW HAVEN, CONN.

DICK *Victory* FIXTURES on our Victory Fleet

Liberty Ship
U. S. Maritime
Commission Photo

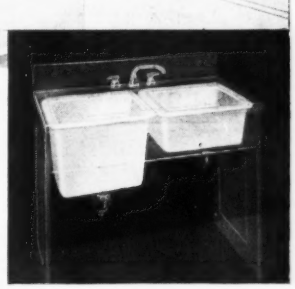
Backbone of America's fast-growing Victory Fleet is the Liberty Ship, more than 1,500 of which are scheduled to be delivered before the end of 1943. Not one single ship launching must be delayed one single day, because these cargo vessels must deliver the vitally necessary materials of war in overwhelming volume to our far-flung Allied battlefronts.

We're working hard to supply many of the various fixtures needed in the construction of our Victory Fleet. We're doing our part to give Uncle Sam what he needs . . . and at the same time, render to all we are privileged to serve, the best possible service under existing circumstances.

FIRST QUALITY PLUMBING BRASS GOODS SINCE 1897

DICK BROTHERS, INC.
READING, PA.

If you worked in the kitchen...



You'd Want PERMA-GLOSS *too!* —

"Remember me? I'm the housewife who works with the equipment you install in the kitchen. I *use* the Perma-Gloss sink and tray. I clean them. I want them to clean easily. I don't want to worry about chipping, cracking or staining. In specifying the 'Technical details' don't overlook me and my convenience.

"Take a tip and supply Perma-Gloss – it meets my requirements and if it meets mine, it will satisfy your other customers."

Through installations in Government housing units, dormitories and camps, Perma-Gloss is making new friends by the thousands. "After-the-war" customers are learning Perma-Gloss advantages now—they will insist on Perma-Gloss in new homes.

PERMA-GLOSS

- is light weight—easy to install
- is strong and durable—will not dunt or craze
- is acid proof throughout—not merely acid resistant
- has no enamel to peel or chip—no iron to rust
- will withstand thermal shock
- is inexpensive

For detailed information send for our latest Perma-Gloss bulletin.

BUY MORE WAR SAVING BONDS

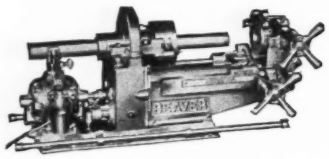
General Ceramics Co.

GENERAL CERAMICS COMPANY · SANITARY WARE ·

SANITARY WARE DIVISION
METUCHEN, NEW JERSEY

3796

The A-B-C of Pipe and Bolt Machines

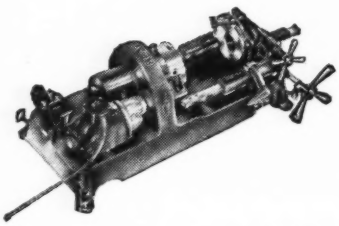


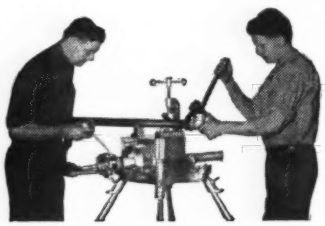
Beaver Model-A

A high-speed heavy-duty deluxe Pipe and Bolt Machine. Range ⅛ to 2-inch —up to 12-inch with geared tools and drive shaft. Bolts, ¼ to 2-inch. Wt. 415 lbs. Ask for Bulletin-A.

Beaver Model-B

A compact utility Pipe and Bolt Machine combining many features of Model-A with the easy portability of Model-C. Range ⅛ to 2-inch — up to 8-inch with drive shaft and geared tools. Bolts up to 1½-inch. Wt. 280 lbs. Ask for Bulletin-B.





Beaver Model-C

A sturdy little Power Unit

Converts Hand Pipe Tools into Power Tools from ⅛ to 8-inches. Threads 8-inch in 6 minutes. Threads bolts up to 1½-inch. Equipped with automatic chuck wrench ejector — a safety feature. Two men can use it at the same time without interference. Easily portable — weighs about 150 lbs. Write for Bulletin-C.

BEAVER PIPE TOOLS

A Complete Line — Hand and Power!

543 DOME AVE. WARREN, OHIO

TAL'S Prestal HYDRAULIC PORTABLE

PIPE BENDER

for iron and steel pipe from ⅜" to 4½"

- *No Heating*
- *No Filling*
- *No Kinks*
- *No Wrinkles*

Patents and Patents Pend.

The NEW TIME-SAVING, LABOR-SAVING MACHINE that ELIMINATES EXTRA WORK!

Why use fittings, elbows, etc. in places where they are not necessary? Make your job easier—faster—less complicated and at the same time save critical materials.

Those who use TAL'S PRESTAL once, never again go back to old, time-wasting methods.

Use it for all types of plumbing and heating.

TAL'S PRESTAL is portable—goes along on every job—is so easy to operate that even "green hands" will turn out smooth, wrinkle-free bends in one single, simple operation requiring only a few minutes.

SMOOTHNESS OF BENDS:

No breaking of pipe due to scientific development of bending formers. No job too complicated.

Obtainable in three different sizes.
Meets U. S. Navy, Army & Maritime Comm. Specifications.
Write today for circular giving complete description.

TAL'S PRESTAL BENDER, INC. Dept. D-5 Milwaukee, Wisconsin

HYDRAULIC PORTABLE TAL'S PRESTAL

CLOSET BOWL SETTING SEAL

For Setting Closet Bowls Urinals and Other Fixtures

Set them tight with CLOSET BOWL SETTING SEAL. Assure your customer of an installation that is PERMANENTLY leak-proof, gas-proof and odor-proof.

CLOSET BOWL SETTING SEAL has been used by Master Plumbers for over 30 years and is now available to plumbers everywhere. Made and guaranteed by the makers of BOILER SOLDER SEAL, it has the "tack" you need, is pliable yet durable. Reshapes itself if fixture is moved or jarred because it does not harden or crack.

A PROFIT In Every Tube

CLOSET BOWL SETTING SEAL is packed in a convenient 8 ounce tube, the right amount for most jobs. Charge for it as you would for any other item of material and thereby make an ADDED PROFIT on every job.

Golden State Washers

Quality is more important now than ever before. Install TRIPLE SEAL TANK BALLS and GOLDEN STATE WASHERS for maximum service from present equipment. Carry the handy pocket kit of GOLDEN STATE WASHERS on every job. An assortment of 200 washers in 7 different sizes.

Triple Seal Tank Balls

The flexible construction and the patented three-way sealing of TRIPLE SEAL TANK BALLS assure a perfect fit on all valves, even though badly worn or corroded. Guaranteed to give four years of satisfactory service.

SOLDER SEAL PRODUCTS are sold only through the trade. Your wholesaler can supply you.

RADIATOR SPECIALTY COMPANY

CHARLOTTE NORTH CAROLINA

BRANCHES AND MFGS. LOS ANGELES, CALIF. — A SOLDER SEAL PRODUCT — FACTORIES TORONTO, CANADA

Boiler Solder Seal • W J Boiler & Heating System Cleanser • Adjusto, the direct water heater and booster • Triple Seal Tank Balls • Golden State Washers • Drain Pep • TiteSeal, the indestructible gasket and joint-sealing compound.

KENNEDY BRONZE GLOBE VALVES

All Standard Disc Types

Fig. 89
Bronze Globe Valve with Renewable Composition Seat

BUY FROM OUR DISTRIBUTOR

You will find that these valves operate easily . . . close tightly . . . give dependable, lasting service. Fig. 89 illustrated is typical of Kennedy Bronze Globe Valves . . . strong . . . designed to speed-up piping jobs . . . simplify operation . . . keep maintenance costs low. Available disc types include bronze, renewable composition, regrinding, full way, and plug type for steam pressures up to 300 lbs. For complete catalog, write

THE KENNEDY VALVE MFG. CO. • ELMIRA, N.Y.

tent advice on well and water service problems. Pictures are included showing the various requirements which the farm water system supplies such as dairy service, hog watering, poultry watering, barn flushing, house service, fire protection, etc. **Issued by:** The F. E. Myers & Bro. Co., Ashland, Ohio.

● ● ●

Unit Heater

Type of Literature: An 8½ by 11 in. catalog sheet entitled "It's Still a Different Unit Heater." **Listed Features:** Data is given on the unit heater which has the condenser or "fin" heating section made of cast iron. It is stated, however, that it is engineered and designed along the same lines as the standard unit heater which had aluminum heating sections. The construction and materials of this cast iron series unit heater has been approved by the War Production Board. The heater is designed and tested to operate with either steam or hot water systems—for steam pressure from 2 lb to 250 lb. It is further stated that the heater is especially adaptable in plants where acid conditions or fumes may retard and destroy other types of heating equipment. An illustration of the complete unit heater is shown as well as one of the condenser or "fin" heating section. **Issued by:** D. J. Murray Manufacturing Co., Wausau, Wisc.

● ● ●

Registers

Type of Literature: A four page, 8½ by 11 in. leaflet in black and white — Supplement No. 41B. **Listed Features:** The literature is devoted to the company's recently designed line of non-metallic registers and grilles for wartime installations. Included are five illustrations of the various design registers and grills with descriptions given for each. Shown are the adjustable deflection grilles, adjustable double deflection grilles, adjustable double deflection multi-shutter register, etc. Grilles are shown with both vertical bars and horizontal bars. One of the designs illustrated and described consists of two sets of individually adjustable wooden bars in a single frame. One of the registers shown is equipped with a presdwood multi-shutter damper which is operated by means of a lever on the face of the registers. It is stated that the registers and grilles are furnished as standard in what is said to be a flame-proof, fire resistant prime coat finish. **Issued by:** Tuttle & Bailey, Inc., New Britain, Conn.

DOES NOT STAIN HANDS or FIXTURES

Take a tip from other master plumbers and use Rutland Pipe Joint Cement on every job. It seals joints tightly—lasts indefinitely—yet always leaves pipes easy to disjoin. Legal for use in all cities because no toxic ingredients. Remains soft in can.

Mail post card for free sample. Rutland Fire Clay Company, Department D-15, Rutland, Vt. Also makers of Rutland Retort Cement, Furnace Cement, Asphalt Paint, Concrete Patcher.

Good faucets are an asset to Civilian Defense

During a little more than a quarter-century, the plumbing trade and thousands of satisfied users from coast to coast have come to know that

CHICAGO FAUCETS

Last as long as the Building

Now, like every American enterprise depending upon materials which, during this period of national emergency, are designated as "critical," production of Chicago Faucets must be curtailed until victory permits our resumption of full-scale manufacture.

Meanwhile, we are certain that the confidence of the plumbing trade in Chicago Faucets will be fostered and strengthened by the performance of the thousands now in use. Even the severest usage during a few war months or years can little affect faucets that give lifetime service.

All deliveries are subject to the rulings and regulations of the War Production Board, Priorities Division.

THE CHICAGO FAUCET CO.
2712 N. Crawford Avenue, Chicago

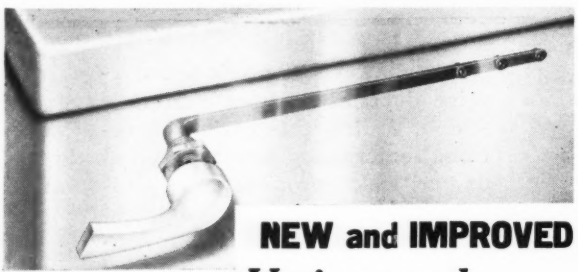
NEED PHOTO-DEVELOPING TANKS OR SINK EQUIPMENT *in a hurry?*

There is no shortage of Grade 25 Alberene Stone. Your requirements can be supplied immediately. National Bureau of Standards tests have shown that Grade 25 is unaffected by hypo. The supply of this stone is practically inexhaustible, and our machine capacity has been considerably increased, so that the emergency finds us equipped to fabricate and deliver needed tanks, sinks and other equipment promptly. We are shipping quantities of tanks and battery-room sinks to both Army and Navy Air Schools and Bases in outlying possessions as well as on continental U. S. A.

Alberene Stone Corp. of Va.
419 4th Ave.
New York

U. S. Naval Air Stations at various points in the U. S. and outlying possessions are using Alberene Stone Sinks of this type, with and without drainboards and highbacks.

ALBERENE STONE SINKS • TRAYS



NEW and IMPROVED

MODEL NO. 1000

Universal

FLUSH TANK LEVER

- SINGLE ACTION
- FITS ANY TANK
- QUICKLY INSTALLED
- LOW PRICE
- PATENTED

In **appearance, in assembly, in design,** the new UNIVERSAL flush-tank lever is streamlined for modern tank installations. All metal construction, corrosive resistant. Handle finished in white high-baked synthetic enamel. Over a half million in use.

CRAMPTON MFG. CO., HOLLAND, MICH.

Showing Carey Cabinet No. 640 and Soap Holder No. 4022

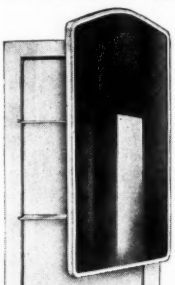
MIAMI

Bathroom Cabinets and Accessories

"Reflect Good Taste"

Photo courtesy Henry Weis Mfg. Co. (Weisway Showers)

Production of MIAMI metal cabinets and accessories has been discontinued for the duration, but some models are still available from Distributors' stocks.



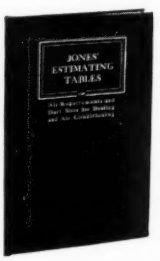
No. 103-W

Attractive Wood Cabinets

Meanwhile, MIAMI Wood Cabinets are doing a good job of "pinch-hitting" in war housing and wherever replacements are necessary. These units, now in production, are available in quantity, and are equipped with convenience features that are standard in MIAMI metal cabinets.

Complete details and catalog sent on request. Write Dept. DE.

MIAMI CABINET DIVISION
THE PHILIP CAREY MFG. COMPANY
Dependable Products Since 1873
MIDDLETOWN, OHIO



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NO MAN interested in forced air heating or air conditioning can afford to be without JONES' ESTIMATING TABLES. This book makes the figuring of forced air heating and air conditioning requirements simple, clear and absolutely certain and eliminates all chance of error or omission. Saves time and effort. Four sets of tables cover every possible condition . . . everything which may have an effect on heating and air conditioning. Can be utilized on ANY system using ducts. Beautifully bound, this book consists of 68 pages, size 6x9. Get your copy. Send your order and your check today. If you are not satisfied, return the book and your money will be refunded. Formerly priced at $2.00 this book has been reduced to... **$1.00**

DOMESTIC ENGINEERING COMPANY
1900 PRAIRIE AVENUE, CHICAGO, ILLINOIS

★ *Write for detailed information on other Plumbing, Heating and Air Conditioning Books.* ★

Another from March . . .

(Continued from Page 82)

It is interesting to note that under these conditions the percentage of saving by not heating a given space is independent of the outside temperature.

Substituting the specific values in the last above expression the percentage of heat saved is found to be:

$$\frac{100(269)}{(269 + 110)} = 71.0$$

Since in this problem it has been assumed that the building is heated to the design temperature, there is no change in the length of the heating season or degree-days for the season, and since fuel consumption is proportional to heat loss, neglecting the variation in efficiency of the heating plant under different load conditions, cutting off the radiator in the one room will effect a saving equal to the saving in heat loss or 71 percent of the heat delivered to the room under normal operation.

A more interesting solution would be to assume that the plant was designed to maintain 70 degrees with an outside temperature of zero, that the radiator in the room is cut off, and the balance of the building maintained at 65 degrees.

Under these conditions, L becomes:

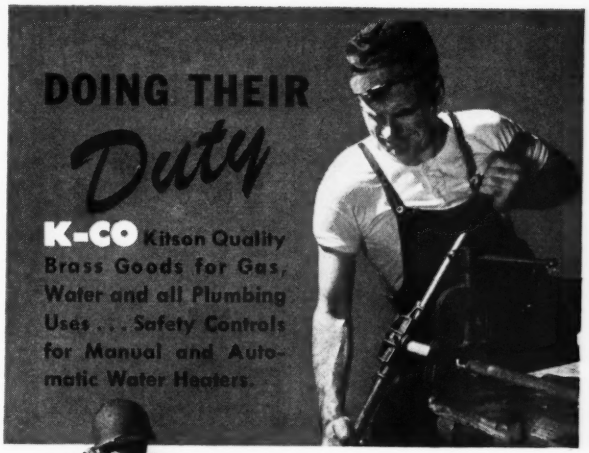
$\frac{70(240)}{70} = 240$ and the percentage saving in heat loss is:

$$\frac{100}{240 + 10}\left[240 + \frac{110(70 - 65)}{(70 - 40)}\right] = \frac{100}{350}\left[240 + 18\right] = 73.7$$

Under the conditions of this problem, there is an additional saving due to the fact that the length of heating season as well as the number of degree days involved are reduced.

During a normal season, with 70 degrees maintained in the building, the degree-days would be: (65 — 40) (200) = 5,000.

A very close estimate of the degree-days involved in the reduction of the maintained temperature from 70 degrees to 65 degrees can be made on the basis that the length of heating season is reduced 6 days per degree drop in temperature. This amounts to: 5 × 6 = 30 days, making the length of heating season: 200 — 30 = 170 days. These 30 days will deduct: (6 × 1) + (6 × 2) + (6 × 3) + (6 × 4)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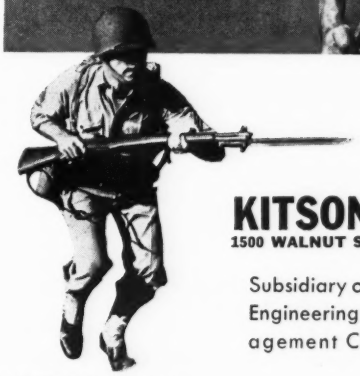
Duty
K-CO Kitson Quality Brass Goods for Gas, Water and all Plumbing Uses . . . Safety Controls for Manual and Automatic Water Heaters.



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Subsidiary of Welsbach Engineering and Management Corporation

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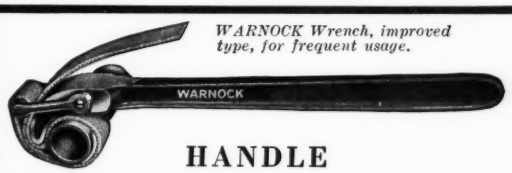

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HANDLE
SMOOTH PIPE AND TUBING
WITH THE
GREATEST of EASE
AND THE
GREATEST of CARE!

WARNOCK Simplex Wrench, simplest of strap wrenches, for occasional use.

AVOID grief on jobs involving chrome, brass and nickel plated pipe and tubing! WARNOCK Strap Wrenches are designed to handle these jobs with the greatest care and ease. They prevent wasted pipe, save time and labor. A practical tool for the practical man. Order a supply from your wholesaler today . . . one for every man on your force.

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WORCESTER MASSACHUSETTS

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Be Safe—Order Your "FLEXIBLE" Tools Early!

Though we are getting good priorities for materials used in manufacturing FLEXIBLE tools, labor shortage in our factory has built up a considerable backlog of unfilled orders. We, therefore, suggest that you anticipate your requirements for all types of FLEXIBLE pipe-cleaning tools as far ahead as possible. All orders on hand are being filled as promptly as possible and we must ask you to bear with us if deliveries are somewhat delayed.

FLEXIBLE SEWER-ROD EQUIPMENT CO.
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401 Broadway, New York
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WARM AS TOAST...

ON 25% LESS FUEL

Severe fuel rationing has put *sales magic* into these simple words, "A Field Control keeps you *warmer* on *less* fuel!" Always a best-seller because it cut fuel costs from 5% to 25%, the fuel saving Field Control now has a stronger appeal and greater market than ever before. The complete Field line covers all residential and commercial needs. And there's *profit* in every easy sale, installation taking as little as 30 minutes.

Illustrating the Field Type "M" Control, acknowledged the most accurate of draft controls. Write for information on this and other types in the complete Field line of domestic and commercial units.

FIELD CONTROL DIVISION
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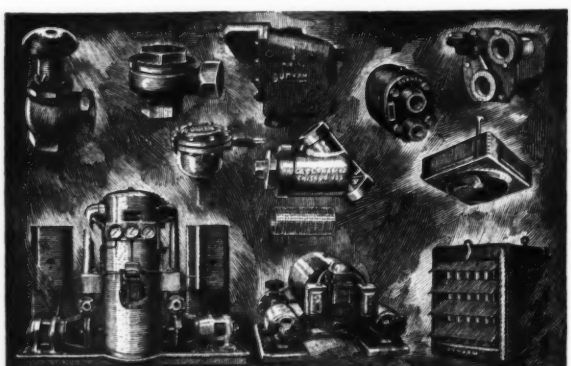


THE DUNHAM *Victory Line*
VAPOR AND VACUUM HEATING SPECIALTIES

Operating Engineers will approve this new Dunham line of cast iron specialties built to meet Government specifications for the duration.

Cover and disc assemblies of traps are interchangeable with Dunham standard traps. The radiator valve is spring packed (known to the trade as "packless"), has non-rising stem with indicator. Descriptive bulletin of the Line gladly sent upon request.

"Dunham Heating Service" is available through the telephone to more than 60 cities, or by correspondence to C. A. Dunham Co., 450 E. Ohio St., Chicago.

DUNHAM HEATING SERVICE

+ (6 × 5) = 90 degree-days.

Therefore the degree-days with an inside temperature of 65 degrees will be: 5,000 — (5 × 170) — 90 = 4,060.

The relative amount of fuel used based upon the number of degree-days is:

$$\frac{4060}{5000} (100) = 81.2 \text{ percent.}$$

Since cutting off the radiator saves 73.7 percent of the heat required for the room, the amount used would be 26.3 percent if the number of degree-days involved were not changed. But only 81.2 percent of the number of degree-days are involved with a 65 degree inside temperature in lieu of 70 degrees.

Therefore the heat used will be:

81.2 percent of 26.3 = 21.4 percent.

Therefore the percent saving will be: 100 — 21.4 = 78.6 percent of heat normally required for this room.

Virginia J. K. Peebles.

Directing Stoker Sales...

(Continued from Page 76)

hand-firing impractical.

3. Load of boiler is greater than boiler output when hand-fired.

4. Uniform temperatures are required and can only be maintained with automatic firing equipment.

5. No satisfactory way to install grates.

If any one or more of the above conditions prevail, it is probable that the only solution to the conversion problem is the application of a stoker.

To cooperate with the WPB offices, we should assist applicants in completing their PD-668 applications. The applications should be filled in very carefully and complete in every detail. Many applications are rejected because insufficient or incorrect information is given. A little extra time in answering completely all questions and furnishing all the information required will expedite approvals and save much time for everyone concerned.

If there is not sufficient room on the application to furnish all the information that the applicant feels should be given, a supplementary letter should be attached. In this letter give the additional information in a very brief but complete way. Write the letter like you would a telegram, that is, say as few words as possible to convey the message.

Recently the War Produc-

How much should 1000 gallons of Hot Water cost?

AQULUX
Heavy Duty
WATER HEATERS

Users of the new, heavy-duty Aqulux-225 have learned that the cost is down. It may interest you to see the operating figures for this uninsulated, unjacketed, ungalvanized wartime model developed by Johnson.

Working at full capacity under average conditions, the Aqulux-225 will heat 1000 gallons of water to 100° F. rise in 3.7 hrs., using 7.43 gallons of No. 3 fuel oil. If the oil price is 6c per gallon, the total cost is 44½ cents.

Performance like that is the result of long research and experience . . . 40 years of it . . . in engineering and building fine Oil Burning Equipment.

Though the Army and Navy are taking most of our output, a limited number of war-essential industries can be supplied if their rating is high enough. We will gladly send further information. S. T. Johnson Co., 940 Arlington Ave., Oakland, Calif., and 401 No. Broad St., Philadelphia, Pa.

S. T. JOHNSON CO.

40 years of engineering and building fine Oil Burning Equipment

When to Fill... and How Much...

HERE IS THE ANSWER!

The Government ruling affecting Fuel Oil Consumption makes Rochester Gauges more in demand today than ever before. Here's Why:

1. Large, easy-to-read figures on "double-dial," an *exclusive* Rochester feature, permit quick accurate reading from *outside* or *in* the cellar!
2. Magnetic, leak-proof principle assures accurate, dependable service—trouble-free operation!

Available for *immediate* delivery by your Rochester Jobber. Write today for complete information.

ROCHESTER MFG. CO., INC., 7 Rockwood St., Rochester, N. Y.

Rochester OIL BURNER TANK GAUGES

Carey HEAT INSULATIONS

Careycel Insulations
For temperatures up to 300° F.

85% Magnesia
For High and Medium Pressure.

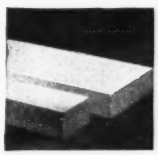
Cut Production Costs

Modern industrial plants are saving thousands of fuel dollars each year through the correct application of CAREY Heat Insulations . . . a complete line of high efficiency insulating materials of Asbestos and Magnesia for every known service condition—for temperatures ranging from

SUB-ZERO to 2500° F.

Put your special problems up to Carey Engineers . . . their experience and Carey research facilities are available through branch offices covering the nation. Write for book of interesting, technical data. Address Dept. 18.

Combination Hi-Temp—85% Magnesia.



Hi-Temp Blocks—For Furnaces, Ovens, Kilns, etc.

Hair Felt Insulation
For sub-zero.

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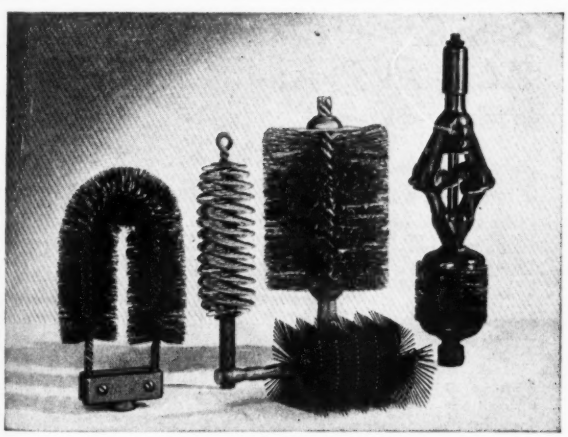
Dependable Products Since 1873 Lockland, CINCINNATI, OHIO.
In Canada: The Philip Carey Co., Ltd. Office and Factory: Lennoxville P. O.



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Heater Brushes—Handy
Cleaner Brushes — Fire
Brooms—Track Brooms

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The complete ILLINOIS line includes valves for every type of service. They are available in single seat for dead end service, or double seat for continuous flow, and can be furnished in spring loaded, weight and lever or internal pilot type, as service requirements dictate.

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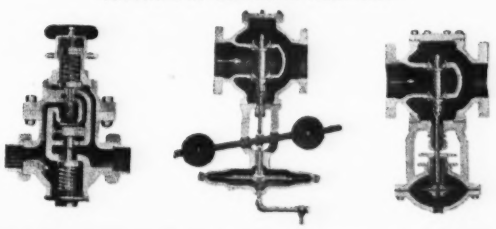
Write for Bulletin No. 107



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FLUSH TANK LEVER

Combining efficiency and economy, the new CRAMPTON Flush Tank Lever is made of *unbreakable* rolled stock. No zinc used in the lift arm! No small parts to get out of order! Attractively designed . . . attractively priced . . . the new CRAMPTON is approved by leading water closet manufacturers for present-day installations.

See your nearest wholesale plumbing supply house
MADE IN GRAND RAPIDS ONLY BY

CRAMPTON HARDWARE CO.
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COLEMAN'S
Headquarters for all kinds of SEWER and PIPE CLEANING TOOLS.

Flat Steel Sewer Rods—Flexible Pipe Augers—Closet Cleaners—Brass Suction and Force Pumps—Suction and Force Cups—Hydraulic Flushers—Strap Wrenches—Gauge Glass Cutters—Lead Joint Runners.

Can be purchased through any Supply Jobber.

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Flexible Coil Wire Pipe Augers

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Where STRENGTH Counts MOST

Pipe jobs that assure the most lasting connections are those on which ATHOL Brass Ferrules, Unions, and Union Ferrules are installed. With ATHOL there's no breakage . . . no lost motion . . . no lost time! Specify ATHOL . . . place a trial order with your plumbing supply house today.

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BRASS FERRULES, UNIONS AND UNION FERRULES
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ARMSTRONG BROS.

Adjustable, Receding, Solid

DIES—Special Chrome Vanadium Tool Steel—heat treated and hardened. Correct cutting angle and "Backed Off" teeth make them faster, smoother and easier cutting. Ample chip clearance.

STOCKS and threaders of all types—lighter, balanced, smooth finished and cadmium plated.

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"The Tool Holder People"
323 N. Francisco Ave., Chicago, U. S. A.
Eastern Warehouse and Sales:
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FIRST CHOICE FOR THREADING

LONGER TOOL LIFE
ECONOMICAL
LESS LABOR

Clean cut, tight fitting threads—the ACTIVE sulphur does the job.

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★ *the War Effort!*

HINDLEY'S Aids to ~~Good Plumbing~~

Our entire output of Hindley's "Aids to Good Plumbing" now goes to supply Army, Navy and Government needs! The vital time and labor they save now helps Uncle Sam to push a little farther on the road to Victory!

When the time comes to relax our war production HINDLEY'S will again turn all their facilities to the task of supplying plumbing contractors with these "Aids to Good Plumbing" that have meant so much in time and labor saving in the past. Until then, keep us in mind.

★ **HINDLEY MANUFACTURING COMPANY**
VALLEY FALLS, R. I.

SPEED UP! ALL INSTALLATIONS

In Masonry and Concrete with

PAINE Anchors

Fig. 910 Fig. 900

PAINE Lead Expansion Anchors eliminate "callbacks"—save time and labor, and assure a permanent workmanlike job. You simply place in hole, tap with setting tool and tighten. Precision threaded, rust and vibration resistant. Fig. 900 available in 9 standard diameters from 6-32 to ⅝". Fig. 910 in ¼", ⅜", ½" diams. in standard lengths.

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FASTENING and HANGING DEVICES

Last Longer! Give Better Service!

"DANDY" TANK BALLS

Made of tough, alkali-resisting black rubber compound. "DANDY" Tank Balls are sealed right into air-tight containers the moment they're finished! You get them perfectly fresh, and they'll **stay fresh** in their containers! DANDYS can't swell . . . they seat perfectly in every type of valve. By using DANDYS on all your tank jobs you're bound to give complete satisfaction! Order from your wholesaler now!

LAVELLE
RUBBER CO.
424 NORTH WOOD ST.
Chicago, Illinois

tion Board released a revised Form PD-668. The most important changes on the revised form are:

1. Applications are void unless a written order is placed for the stoker within 15 days after the application is approved by the War Production Board.

2. Section C has been added to enable applicants to receive preference rating with which to purchase essential material required for the conversion, other than the stoker.

There are some other changes but the above two are the most important. Heating contractor-dealers should study the application very carefully before trying to assist an applicant in completing the application. The services of some one familiar with completing the application will be appreciated by the applicant as well as others who may have to consider or use the application in any way, for any purpose.

Although stokers do not carry a preference rating, they are allocated for applications where they will do the most good so far as the war effort is concerned. High ratings have been assigned for obtaining raw materials necessary to produce stokers. It is true that the stoker business today has a most important relation to the war effort. Many thousands of plants have been converted, but it apparently is going to be necessary to convert thousands more in order to make available fuel oil and gasoline which are so critically needed in combating our enemies. With these thoughts in mind, stoker men should re-double their efforts in cooperation with the War Production Board and the Petroleum Administrator for War to make stoker equipment available where it will do the most good.

Job for Stokers . . .

(Continued from Page 73)

allowed to ramble on toward the fall months without taking any action.

Not only does the stoker industry face an important task in selling and installing the greatest number of stokers possible to conserve oil and coal, but it will find an important job on the home front in getting the stokers built. There is not much time left between this and the next heating season to permit anybody to loaf. We are constantly after our distributors and dealers and we are getting this new message out to

IMPORTANT NEWS FOR EVERY WINDMILL DEALER

By authority of the War Production Board, it is now possible to supply NEW WINDMILL HEADS for old towers, permitting thousands of windmills and wells to be put back in service. NO RATION CERTIFICATE IS NEEDED, if it is specified that the windmill head to be replaced is worn out or damaged beyond repair.

Monitor can provide its genuine original SKY POWER wheel and vane to fit *any make* tower. This is the famous Monitor head with *automatic wind governing*, complete with storm-safe V-brake, iron vault gear box and ball-bearing turntable sensitive to the slightest breeze.

Write your nearest Baker branch immediately for booklet of directions—"Easy Directions for Buying MONITOR Pumping Equipment." Now is your chance to inspect all farm wells and install windmill and pump repairs needed to keep the farm heart pumping for Victory!

Monitor SKY POWER WINDMILLS

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THE *STREAM*LINE TO PEAK PRODUCTION

Clear, clean, COOL drinking water from an Ebco Water Cooler helps keep workers active, accurate, alert and healthful—helps lengthen their peak-production periods. Statements by medical authorities emphasize this fact. That's why Ebco Electric Water Coolers are recognized as important "allies of production." They deliver invigoratingly cool water 24 hours a day—month after month—at minimum cost!

The name EBCO is backed by 20 years of pioneering leadership in the electric water cooler field, and EBCO's advanced production-line manufacturing methods assure top-quality construction. Submit your priority requirements to EBCO TODAY!

EBCO Shipboard Coolers, built to rigid Navy and Government Specifications, are typical of EBCO's quality and design.

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Automatic
WATER HEATERS
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"X" BOILER LIQUID
Seals Leaks in HIGH and LOW Pressure Boilers—Contains NO Solids
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Stops Foaming, Surging and Priming
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4 Quick Hammer Blows Installs this new . . . .
BADGER DAMPER Regulator CONTROL
Here is speedy installation that will save you both time and labor—even with unskilled help.
The new BADGER uses no bolts, rivets or lugs. Just place the regulator over metal edge in center position. Then a few quick blows on a prick punch locks the regulator securely in position, to make a solid, high quality installation. Simple, sturdy, durable — and LOW COST.
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Mfr. of BADGER Humidifiers with the Famous TWO-WAY Snap-Action Valve

PARMELEE PUSH NIPPLES
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RADIATOR and BOILER
Complete Stock — Prompt Shipment.
ANY STYLE—ANY AGE—ANY MAKE
Submit sample if possible.
Utica HOT WATER GENERATOR
Cast iron, 30, 40 and 60 gallon capacity. For installation in boilers and furnaces. Write for details.
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HOT WATER HEATING SYSTEMS
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Sold Thru Wholesalers Everywhere - Ask Your Nearest
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Recommended By Master Plumbers Everywhere
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Army . . Navy . . Maritime and War Shipping Board . . and where climatic conditions make necessary (supplied on receipt of statement from consumer).
• RELIEF VALVES
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We're proud of this great opportunity... proud of the accomplishment of forging the tools for war and at the same time maintaining production of NewYork Air Valves for vital home front needs! You can count on us to continue to reach this objective just as long as it remains necessary.
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Strataflo
CHECK VALVES
are noiseless, sensitive enough for use on very low pressures and can't leak because of the famous rubber poppet. Liquid flows in a straight line. See your wholesaler today or write for folder and prices.
WHITE MACHINE WORKS, FORT WAYNE, IND.

them today.

The national need for the conservation of coal and transportation has not yet been broadcast from Washington. We hope it soon will be. And in the meantime we hope that there will be no delay on the part of the public in buying stokers to conserve fuel oil, and no indecision on their part while they are waiting on oil rationing quota information for the coming year.

*The advantage of using controls to conserve the nation's supply of coal is dramatically set worth in the article "Controls — The Second Sales Opportunity" in this issue.

Postwar . . .

(Continued from Page 58)

ture in too bright a hue are emphasized throughout. For example, many of the figures presuppose (1) that the nation will maintain a high level of employment and (2) that prices are not permitted to get out of hand.

Following are quoted a few of the more interesting paragraphs from the study:

"The war is demonstrating the vast productive capacity of this country when the demand exists. The national output has reached a level which few people believed possible three years ago. Stimulated by war demands, a decade of technological development has been crowded into a few months, thus giving promise of further increases in efficiency when these developments are fully utilized for civilian production. There remains the job of distributing an output of civilian goods equal to the present wartime production.

"The job offers fascinating possibilities for the individual enterprise. The potentially large increase over the prewar volume of business, and the potential changes in products and markets as the result of the war, offer unusual opportunities for those who are prepared to take advantage of them. . . .

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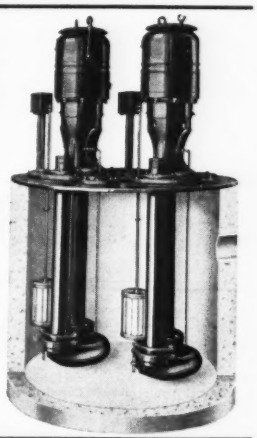

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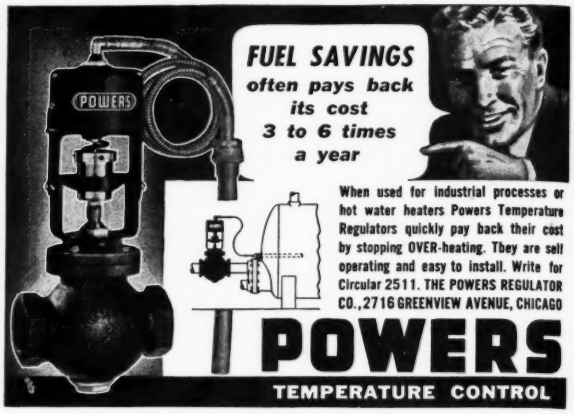

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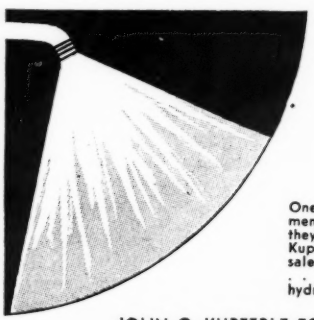

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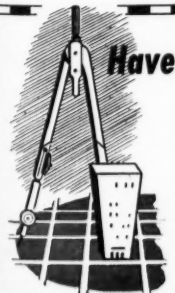

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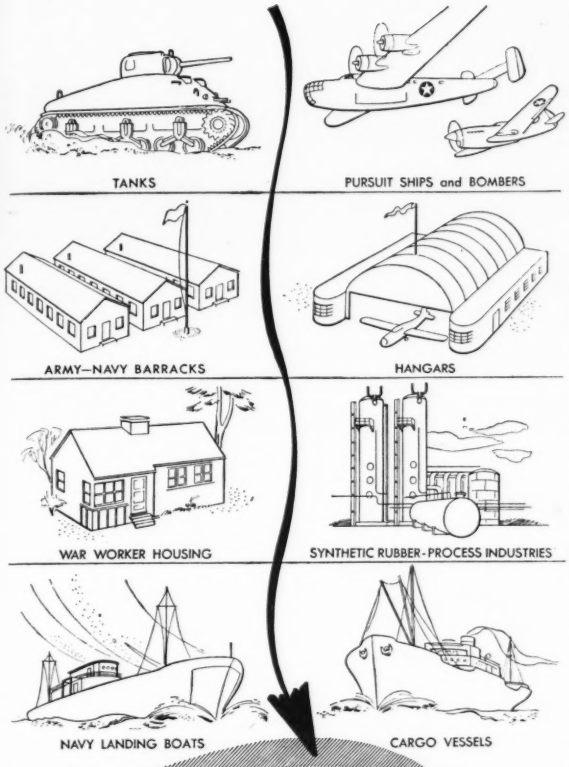

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